

XEROX

Xerox University Microfilms

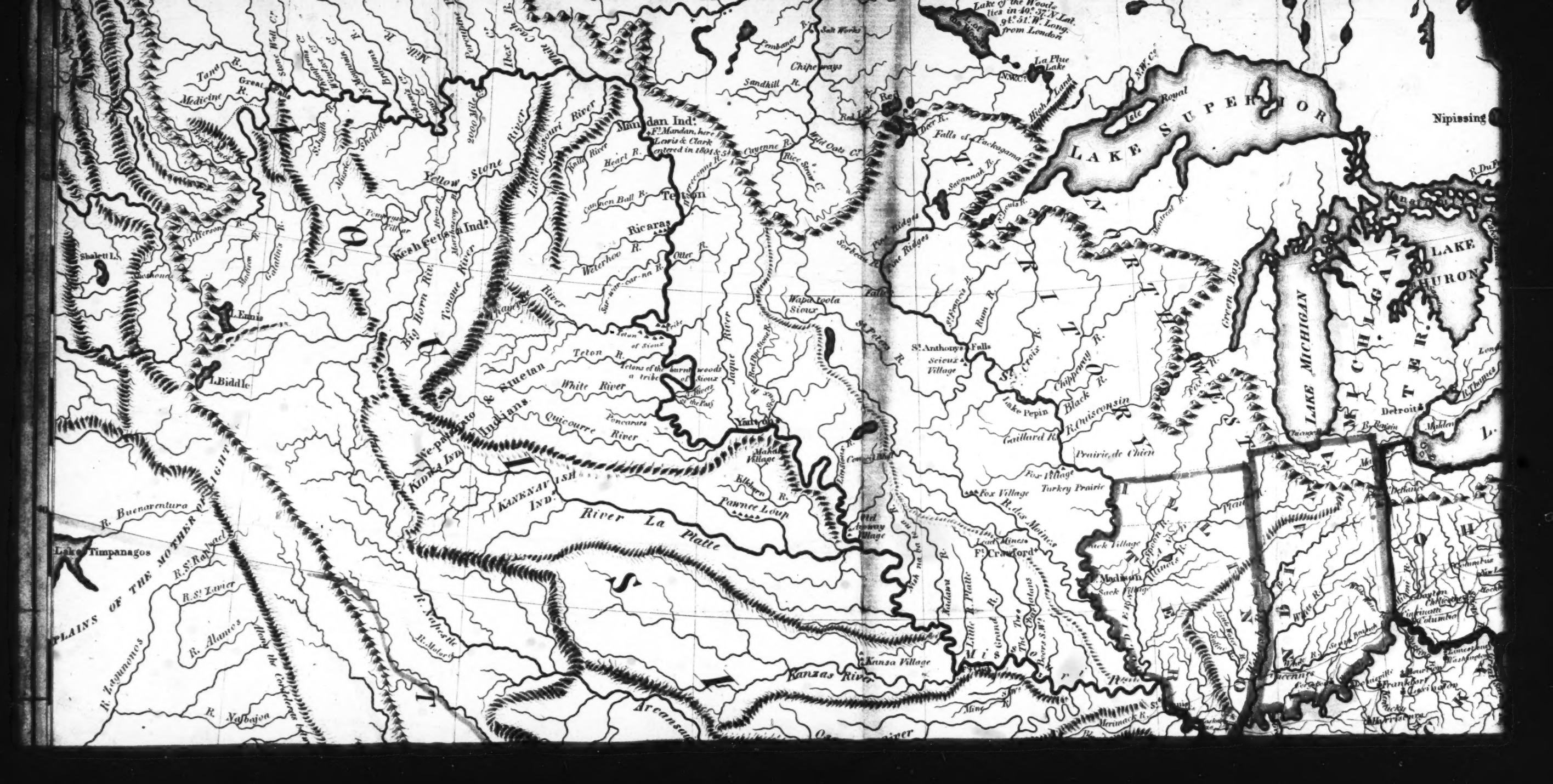
Ann Arbor, Michigan 48106

WESTERN AMERICANA

Reproduced from the original in the collection of
MIAMI UNIVERSITY LIBRARY

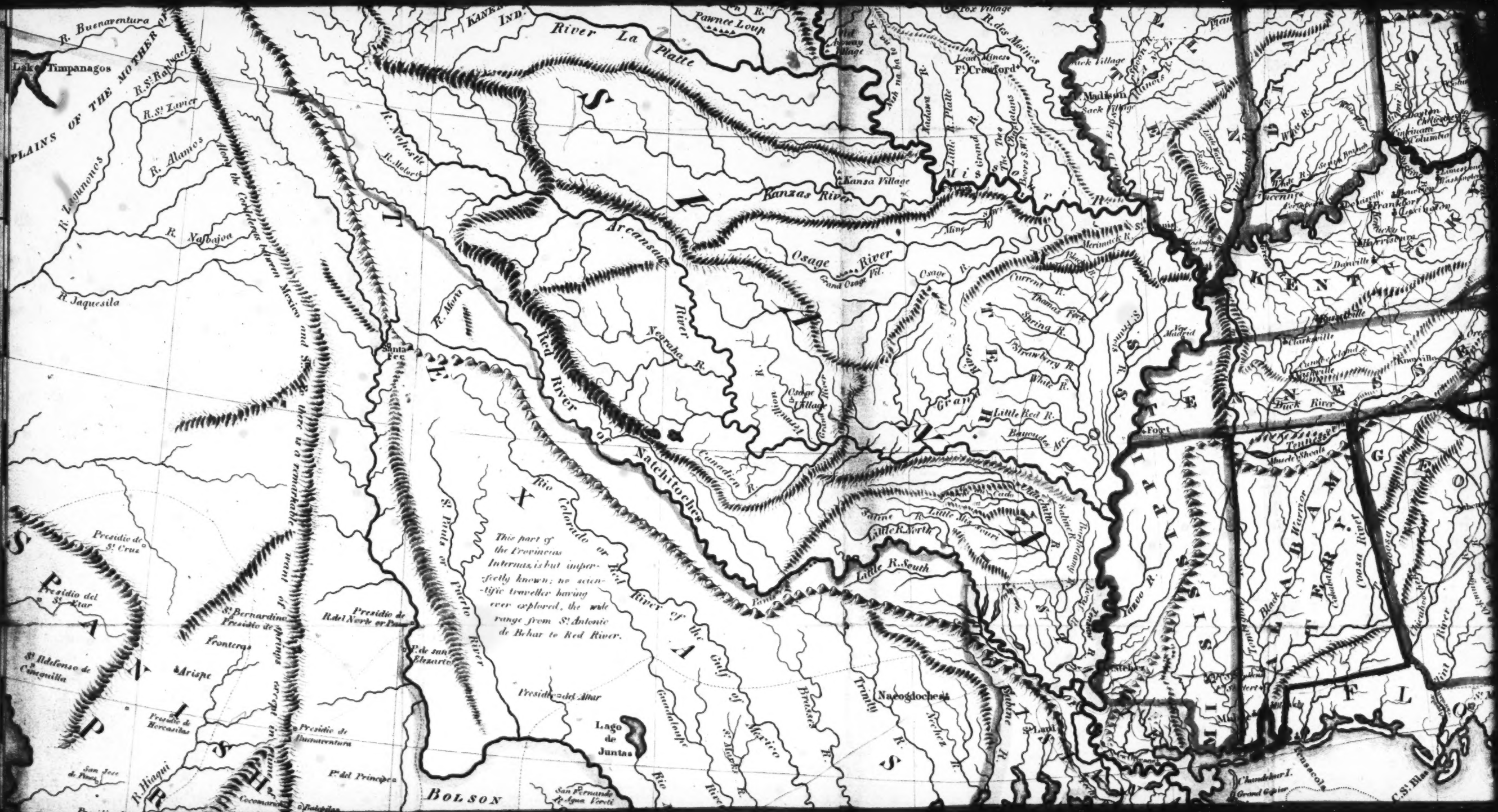


OCEAN





MAP.
OF THE
UNITED STATES
Including
LOUISIANA



This part of the Provincias Internas is but imperfectly known; no scientific traveller having ever explored the wide range from S. Antonio de Bchar to Red River.

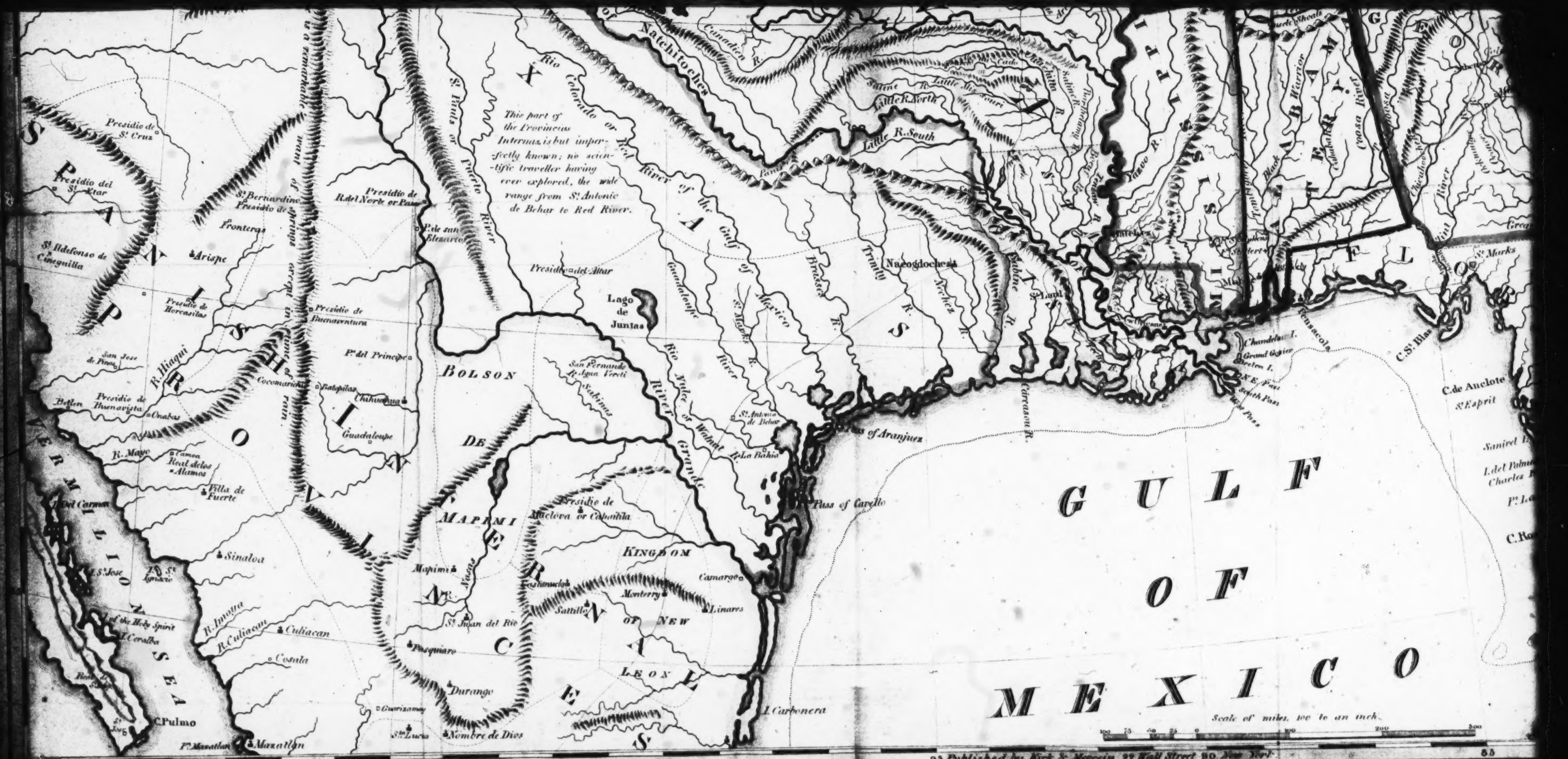


MAP.
OF THE
UNITED STATES
Including
LOUISIANA.
BY
Wm. Darby.

Engraved by
Jas. D. Stout.

G U L F
O F
M E X I C O

Scale of miles, 100 to an inch.



This part of the Provinces Internas is but imperfectly known; no scientific traveller having ever explored, the wide range from St. Antonio de Behar to Red River.

GULF
OF
MEXICO

Scale of miles, 100 to an inch.

Published by Kirk & Mercein 27 Wall Street N.Y.



THE
EMIGRANT'S GUIDE

TO

1-8698

**THE WESTERN AND SOUTHWESTERN STATES
AND TERRITORIES:**

COMPRISING

**A GEOGRAPHICAL AND STATISTICAL DESCRIPTION OF
THE STATES OF**

Louisiana, Mississippi, Tennessee, Kentucky, and Ohio;—the Territories of Alabama, Missouri, Illinois, and Michigan; and the western parts of Virginia, Pennsylvania, and New-York. With a complete List of the Road and River Routes, west of the Alleghany Mountains, and the connecting Roads from New-York, Philadelphia, and Washington City, to New-Orleans, St. Louis, and Pittsburg. The whole comprising a more comprehensive Account of the Soil, Productions, Climate, and present state of Improvement of the Regions described, than any Work hitherto published.

ACCOMPANIED BY A MAP OF THE UNITED STATES, INCLUDING
LOUISIANA, PROJECTED AND ENGRAVED EXPRESSLY
FOR THIS WORK.

BY WILLIAM DARBY,

*Member of the New-York Historical Society, and Author of
a Map and Statistical Account of the State of
Louisiana and the adjacent Regions.*

NEW-YORK:

PUBLISHED BY KIRK & MERCEIN,

NO. 22 WALL-STREET.

AND FOR SALE BY WELLS & LILLY, BOSTON; E. F. ROBERT, ALBANY; A. SWANSON, UTICA; J. B. COALS, BALTIMORE; WOODLEY & SMITH, LEXINGTON, MARYLAND; THOMAS DOBSON, M. CAREY & SON, M. THOMAS, AND E. SMITH, PHILADELPHIA; HERRICK & HOWE, NEW-HAVEN; O. SHELTON & CO. HARTFORD; BOWMAN & BARBER, NEWPORT; D. FENTON, TRENTON; W. S. BURNAN, HUDSON; FITZGERALD & POTTER, RICHMOND; W. F. GRAY, FREDERICKSBURG; JOHN HILL, CHARLESTON; AND W. T. WILLIAMS, SAVANNAH.

William A. Mercein, Printer, 92 Gold-Street.

.....
1818.

917.7

D242

Cov.

Coll.

Southern District of New-York, &c.

BE IT REMEMBERED, that on the twentieth day of January, in the forty-first year of the Independence of the United States of America, Kirk & Mercein, of the said District, have deposited in this office the title of a Book, the right whereof they claim as Proprietors, in the words following, to wit:

"The Emigrant's Guide to the Western and Southwestern States and Territories: comprising a Geographical and Statistical Description of the States of Louisiana, Mississippi, Tennessee, Kentucky, and Ohio;—the Territories of Alabama, Missouri, Illinois, and Michigan; and the western parts of Virginia, Pennsylvania, and New-York. With a complete List of the Road and River Routes west of the Alleghany Mountains, and the connecting Roads from New-York, Philadelphia, and Washington City, to New-Orleans, St. Louis, and Pittsburg. The whole comprising a more comprehensive Account of the Soil, Productions, Climate, and present state of Improvement of the Regions described, than any Work hitherto published. Accompanied by a Map of the United States, including Louisiana, projected and engraved expressly for this work. By William Darby, Member of the New-York Historical Society, and Author of a Map and Statistical Account of the State of Louisiana and the adjacent Regions."

In conformity to the Act of the Congress of the United States, entitled "An Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books to the authors and proprietors of such copies, during the time therein mentioned." And also to an Act, entitled "An Act, supplementary to an Act, entitled an Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books to the authors and proprietors of such copies, during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

JAMES DILL,

Clerk of the Southern District of New-York.

NOTE.—In the following Corrections, mere errors of spelling, or of the press, are overlooked. Only those corrections are made where the sense is affected by the words as they stand in the text. The reader is desired to make the following corrections:

In table page 14, the numbers in the second column standing opposite to the words Arkansaw, and White river, are inverted; after Arkansaw, read 680, and after White river, 660.

In line 31, from head of page 17, for *Persinon*, read *Persimon*.

In page 21, fifth line from bottom, for their liability, read *the* liability.

In page 26, line 7 from head of the page, for Dijon, read *Dijon*.—Same page, line 9 from head of the page, for Beaune, read *Beaune*.—Same page, line 25 from the head of the page, for Durane, read *Durance*.

In page 28, line 7 from head of the page, for Rheins, read *Rheims*.

In page 32, line 6 from bottom of the page, for Maurpas, read *Maurpas*.

In road No. 8, page 37, retrench 30 from each of the last four aggregate distances, which will render the numbers respectively, 166, 211, 261, and 306.

In page 41, line 17 from head, after Pascagoula, read, and thence by water.

In page 41, line 12 from the bottom, after the word *suit*, insert a semicolon, and read the following, thus; his mattress is then stretched, &c.

In page 57, line 15 from head, for is most, read *are* most.

In page 57, line 19 and 20 from head, for Bistenean, read *Bisteneau*.

In page 136, line 16 and 17 from head, for Petititbois, read *Petitbois*.

In road 29, page 157, add 20 to each aggregate distance below 196, standing opposite to the words "mouth of Ohio;" the real distance by water from St. Louis to New Orleans, is 1209 miles.

In page 164, the latitude of St. Louis is marked 45 deg. 15 min., for which read 46 deg. 15 min.

In page 143, under the article St. Louis, for the sight is bold, read *the site* is bold; and under the same article, for delapidated, read *dilapidated*.

In page 166, line 6 from head, for calycle, read *calyx*.—Same page, line 9 from head, for calycle, read *calyx*.—Same page, line 11 from head, for lisse, read *glossy*.

In page 173, last line but one, in the note, for pecei, read *peach*.

In page 173, line 29 from head, for frost, read *seri*.

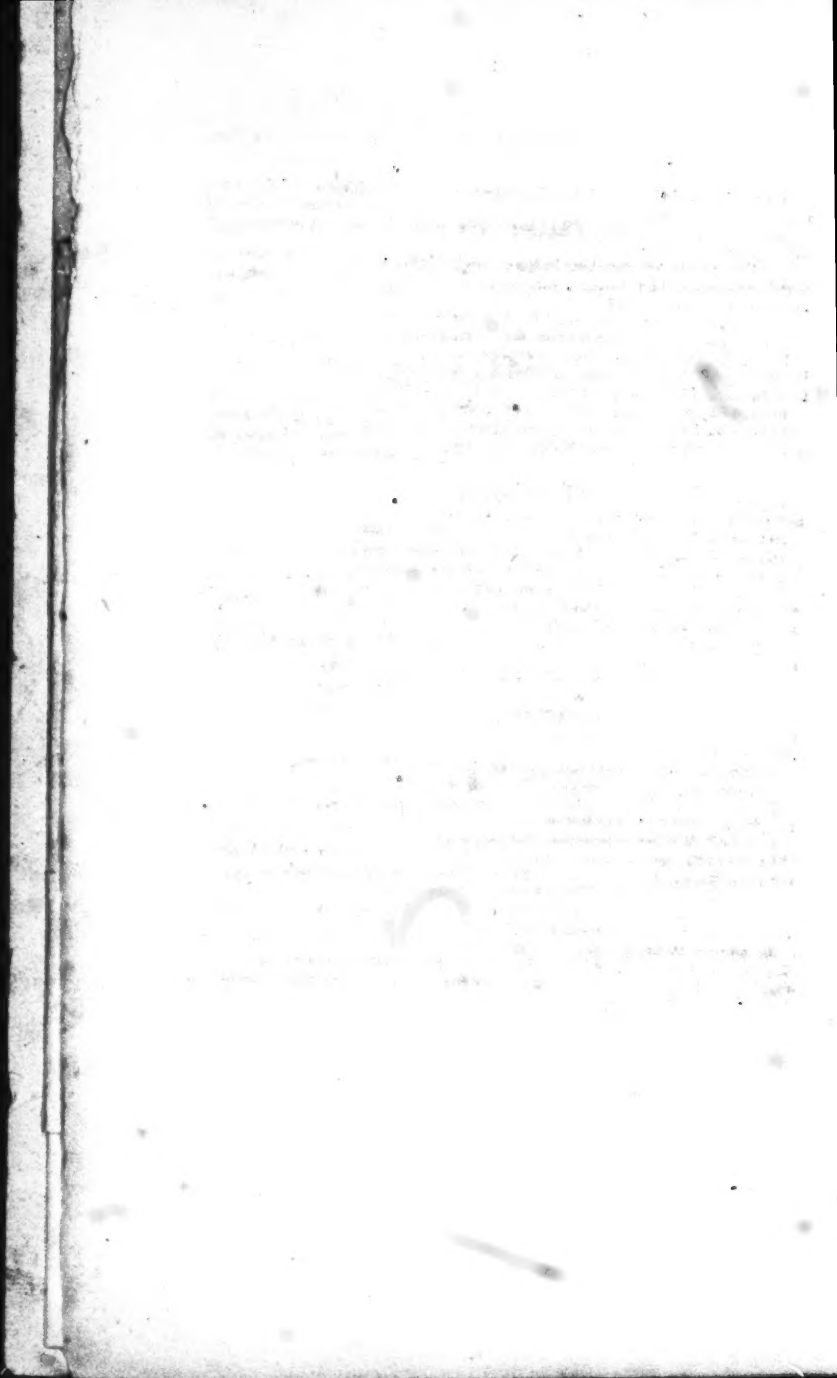
In the statistical table, page 187, under population, and opposite Pennsylvania, for 106, and 391, read 208, 391.

In page 206, line 21 from head, for has, read *have*.

In page 227, first line, Williamsburg in Clermont county is noticed amongst the principal towns of the state of Ohio; of course ought to be retrenched from towns of secondary note, which are named in page 229.

In page 246, line 5 from bottom, for afford, read *affords*; and same page, line 11 from bottom, for reader, read *readers*.

In page 410, topographical table of the western parts of the state of New-York, after Cortlandt, add Franklin, 2-617—which latter number, added to the aggregate, 191-812, will give 194-429, as the amount of the population of west New-York, in 1810.



CONTENTS.

CHAPTER I.

LOUISIANA—extent and divisions—land offices in—titles to land—surveys—productions—seasons—inundations.—Mississippi river—its confluent streams.—Gulf of Mexico—currents in.—New-Orleans—its connexion with the Mobile, Natchez, Arkansaw.—French colony—grant to.—Climate of France, respecting the productions of wine.—Rozier's work on agriculture.—Basin of the Rhone—Seine—Loire—Garonne—Mobile.—Climate of Georgia, Alabama, Mississippi, Texas.—Alabama territory—towns of—roads.—Advice to Emigrants.—Moschetoes, mode of defending themselves against—page 3—43.

CHAPTER II.

LOUISIANA—southwest part—roads in—limits—general description—rivers—productions—inhabitants—their character—prairies—political divisions—sugar cane—domestic animals—cereal gramina—climate—forest trees.—Texas—settlement of—a part of the United States—climate—inhabitants—natural features—productions.—Red river—country watered by.—Ouachitta—confluent streams.—Grants of Batrop's and Masion Rouge's grants.—Northwest section of the state of Louisiana—towns of—staples—land—p. 44—103.

CHAPTER III.

MISSISSIPPI—state of—act of congress respecting—statistical table of—Convention—Dr. Lattimore's Speech—population—position—rivers—counties—natural divisions—natural productions—climate—soil—staples—towns.—Alabama territory—act of congress creating—general description—towns.—Missouri territory—statistical table—rivers—settlements—towns—improvements—agriculture—population—climate—roads—p. 104—164.

CHAPTER IV.

OLIVE TREE—History of—in New Spain—botanical description of—climate and soil suitable to—locality in France.—Mouth of Black Warrior river—latitude of.—Effects of frost upon the olive—history of the olive tree, from Miller's Gardener's Dictionary—compared with the vine—vegetation—leaves of.—Cotton—sugar—rice—tobacco—indigo—potatoes.—Fruits of Louisiana.—Vegetables that may be introduced into, beneficially.—Mulberry—silk worm—165—186.

CHAPTER V.

VALLEYS of the Ohio and Illinois—statistical table of—geographical structure—political divisions.—State of Tennessee—length, breadth,

CONTENTS.

and extent—natural features—mountains.—Tennessee river—stationary distance upon—soil and climate of the state of Tennessee—progressive geography—history—productions—roads.—Kentucky—progressive geography—population—rivers—productions—towns, colleges and schools.—Illinois territory—topographical table of—progressive geography—history—rivers—beauty lands in—timber trees—towns.—State of Indiana—statistical table of—rivers—towns—villages—schools—productions, and staples—merchandise—187—217.

CHAPTER VI.

OHIO—state of—population—extent—topographical table—natural geography—rivers—progressive geography—history—towns—productions—seasons—climate—West Pennsylvania—West Virginia—natural geography—minerals—mountains—rivers—cities—towns—productions—proposed canals—improvement—218—266.

CHAPTER VII.

BASIN of St. Lawrence—political division of.—Lakes—Michigan—Huron—Erie—Ontario.—Rivers—Genesee country—roads.—Boats most suitable to navigate the Mississippi river.—Canal from Hudson to Erie—from Hudson to Champlain.—List of roads.—Advice to Emigrants.—Ohio valley.—Geographical and statistical works on—267—294.

APPENDIX.

No. I. Form of a Spanish Grant.—II. Canals.—III. Western settlements.—IV. Late Indian Treaty.—V. Population in Indiana.—VI. American wine.—VII. Hamilton, in the state of New-York.—VIII. Inland Navigation.—IX. Navigation of the Allegheny river.—X. Inland Navigation.—XI. Steam on the Mississippi and confluent rivers.—XII. Birkbeck's "Journey in America."

Notes.—Topographical table of the western parts of the state of New-York, and of Michigan territory.

PREFACE.

THE daily increasing importance of the Western and Southwestern States and Territories of the United States, and the immense population which the tide of emigration is accumulating in those regions, render an accurate topographical description of their natural and artificial features a desideratum in geographical science. Many local circumstances of the greatest consequence to travellers, are not made the subjects of remark, in any work extant. Even the manner and conditions, in, and under which the public lands of the United States are sold, the situation, productions and climate of the Western and Southwestern States, are very imperfectly described, in most geographical works. Dr. Drake's account of Cincinnati, is the best publication extant, relative to the States of Ohio and Kentucky; but that performance, judicious as it is, embraces but a small part of the extensive country, in the Valley of the Ohio, Mississippi, Missouri, and their confluent streams. As to Stoddard's Louisiana, Brackenridge's views of Louisiana, and Darby's Louisiana, they, like Drake's Cincinnati, furnish only local information. Mr. Melish's work, accompanying his large map, contains a general description of the United States; but, being part of an expensive work, which few persons, comparatively, have it in their power to procure, its usefulness is consequently very confined.

In the present work, it has been the intention of the author, to condense into one portable, and cheap volume, such notices of the country described, as would tend to remove many obstacles. The roads are arranged for each State and Territory, which are necessary for a removal to any given place in the Valley of the Mississippi, by all the various routes now travelled, either by land or water.

The description of tenure, under which the French and Spanish governments granted lands to individuals, is but imperfectly known in the United States, and emigrants ought to gain a previous knowledge of its nature, before removing to places, where all landed property, not sold by the United States, is held and transferred under a species of title, having but little analogy to any with which they had a previous acquaintance.

As the author of this work was one of the surveyors, who for several years assisted in adjusting the ancient boundaries of land, in Louisiana, he had frequent and favourable opportunities of gaining correct information, respecting the French and Spanish land titles.

Though many local circumstances may be omitted, yet the author flatters himself, that the traveller in the valley of the Mississippi, will find the *Emigrant's Guide* an useful manual.

PREFACE.

A statement of the distances from New Orleans, to the various points in Louisiana, Texas, Mexico, Mississippi, Alabama, and Missouri, has never before been published on so extensive a plan; many of the routes are not even mentioned in any former work. A knowledge of the seasons of the year, most suitable to travel, either by land or water, is of the utmost importance to the emigrant. More expense and embarrassment arise from travelling in newly established settlements, at improper times, than many persons could be made to believe. Want of information on the subject of the means of conveyance, is also a source of trouble and expense to emigrants, particularly those, who remove with families. Practical experience on the subject, has enabled the author to mention, in detail, the vegetable staples, their prices and usual mart of sale. The three great articles of culture in the Western and Southwestern States and Territories, Cotton, Flour and Sugar, will demand the most serious attention in every statistical work, relative to those places.

The author has been careful to avoid holding up exaggerated prospects of rapid gain; the many overwrought and highly coloured pictures which have been drawn of different parts, of what is in common language called the Western Country, have produced more evil and injury than can be easily conceived. That those regions do present flattering views to the emigrant, there is no doubt; but there is no country, where labour is not indispensably necessary, and where the common routine of acquiring gain, is not slow and gradual.

With his best wishes for their prosperity, the author of this work takes leave of his readers.

New-York, Sept. 18th, 1817.

EMIGRANT'S GUIDE.

CHAPTER I.

THAT part of the United States, which has received the term Western, relatively to the part east of the Alleghany mountains, lies entirely in the valley of the Mississippi, and Basin of the Canadian Lakes. The southwestern parts of the United States, south of Tennessee and west of Georgia, lie in the valleys of the Mississippi, Mobile and Apalachicola rivers, and other smaller streams in their vicinity. The following table will exhibit the extent and population of this part of America.

	Population.	Extent in square miles.	Acres.
Louisiana	110,000	48,220	30,860,800
Mississippi	40,000	44,500	28,480,000
Alabama	25,000	44,500	28,480,000
Tennessee	340,000	40,000	25,600,000
Kentucky	580,000	39,000	24,960,000
Ohio	346,000	39,000	24,960,000
Indiana	100,000	34,000	21,760,000
Illinois	20,000	50,000	32,000,000
Missouri	*200,000	1,200,000	768,000,000
Michigan	7,000	27,000	17,280,000
N. W. Territory		147,000	94,080,000
Texas	10,000	100,000	64,000,000
	1,778,000	1,813,220	1,160,460,800

When the valley of the Mississippi is mentioned in this work, it is to be understood as comprising all the country drained by that river, properly so called, or its tributary streams.

In describing each of the territorial divisions in this work, we will commence with the most southwestern, and proceed in the order of natural position as far as practicable. Following this arrangement, the state of Louisiana will first present itself.

Before entering on a detail of this state, it may not be irrelevant to explain the difference between Louisiana in its extended sense, and the state of Louisiana as created by act of Congress.

When Louisiana was taken possession of, Dec. 20th. 1803, it was temporarily divided into two territories, the territory of Orleans, and that of Louisiana. The territory of Orleans, comprising the same limits, except West Florida, that now contain the state of Louisiana, was, when the territory of Orleans became a state, changed to the

* Including the Indians.

territory of Missouri,* as it now politically exists. The state of Louisiana commences on the west or right bank of the Mississippi, where that river is intersected by the thirty third degree of north latitude ; and thence down the middle of the Mississippi, to the northernmost part of the thirty-first degree of north latitude ; thence along that degree to the west or right bank of the Pearl river ; thence down that stream to its mouth ; thence along the gulf of Mexico, including all islands within six leagues of the shore, to the mouth of the *Sabine* river ; thence up that stream, until where it is intersected by the thirty-second degree of north latitude ; thence by a line due north to the northernmost part of the thirty-third degree of north latitude ; and thence along that degree to the place of beginning.

There is no extent of land on the globe, possessing greater diversity of soil, than the state of Louisiana. The southeastern part mostly is included in the delta of the Mississippi, is flat, and where the surface can be preserved from inundation, extremely fertile ; the southwestern part is generally level prairie, and much of its area extremely productive ; the northwestern part, a thick forest, and low alluvial soil, upon the rivers ; but at a distance from the streams, the land is high, broken, and sterile.

Like all other establishments made in America, the first settlements of Louisiana were detached, and known by the term of "posts." While a French colony, the posts, east of the Mississippi, were *Mobile* ; upon the Mississippi, at a distance from New Orleans, *Lafourche*, *Baton Rouge*, *Point Coupée* and *Natchez* ;—and west of the Mississippi, *Attacapas*, *Opelousas*, *Rapides*, *Arroyelles*, *Natchitoches*, and *Ouachita*. Notwithstanding the parochial, and county divisions now existing in Louisiana, the names of the ancient "Posts" are retained, and by their appellations, are the minor subdivisions known.

During the existence of the French and Spanish governments, the places near New Orleans, and on the margin of the river, were known by the current name of the Churches, and this topographical discrimination is also retained in common use at this time.

As almost every person, in and out of the country, knows the various parts of Louisiana by these long established terms, I shall use them in this work. It would be vain, even in Louisiana, to inquire for the Church of St. Landré, though every person could point out Opelousas. Attacapas is every where known, whilst but few out of the parishes themselves, know the existence of such places as St. Martins, or St. Mary's.

The same observations are applicable to *Lafourche*, *Baton Rouge*,

* We are induced to introduce in this place, the following translation, in order to show how little the best geographers of Europe know of the political territorial divisions in America, and how far their descriptions of boundaries are entitled to credit.

• "Government of New Orleans, or lower Louisiana, extent and limits—All we certainly know on these two subjects, is reduced to this,—that a line drawn from the post of Natchez to that of Natchitoches on Red river, forms the limit between the government of New Orleans and that of Indiana. (Haute Louisiane) upper Louisiana." *Mentelle, Paris, 1816.*

The work from which the above is extracted, is an elaborate system of universal geography, 16 Vol. in Oct.

Point Coupée, Rapides, Natchitoches, and Ouachita. To those persons who merely wish information respecting the country, or design to emigrate to any part of it, these popular names will be of more benefit, than the legal, but less known terms by which the parishes and counties are designated in the legislative and juridical proceedings of the state. In every inquiry respecting Louisiana, made by those who intend to remove, and obtain actual residence there, the tenure by which landed property is held, is the first, and most serious subject for their investigations.

As the tenure of land in this state differs so essentially from that of other parts of the United States, I shall be more particular in tracing it to its source, and pointing out its validity.

As the governments of France and Spain never considered public land as a source of revenue, the grants were generally small, and made to actual settlers, for specific purposes.

The *requete*, (petition) sets forth the pursuits of the claimant, the number of his family, and the quantity of land desired.

The commandants or surveyor's certificate, certified that the land prayed for, was vacant. The order of survey, directed the commandant or surveyor, to put the petitioner into possession of the land prayed for, without doing injury to prior possessions. The concession, or document of survey, set forth, that on a certain day, and almost always in presence of the neighbouring land owners, the petitioner was put into possession, pursuant to the tenor of the order of survey. When the papers containing the whole of these preliminary proceedings were returned to the land office in New Orleans, the final patent issued, granting the land in (*Franc-alieu*.) allodial tenure.*

In this manner were most of the land titles of Louisiana framed. Large grants, such as those of *Bastrop, Maison Rouge* and the *Houmas*, were exceptions in principle, and the difference will be pointed out in the sequel to this work.

After the termination of the war between France and Spain, at the commencement of the French revolution, and the provisional recession of Louisiana to the former, but few patents for land were issued by the Spanish government in Louisiana. The inhabitants proceeded as usual to frame their petitions, upon which they easily procured the certificate of the commandant or surveyor, and in many instances, orders of survey were made. When the land offices were opened in New Orleans, and Opelousas under the act of congress of 27th March, 1804, the commissioners found the land titles of the country composed of all the various grades, from the simple petition, to the complete grant, or patent. The author was himself present at Opelousas, when the land office was opened at that place, in Oct. 1815, and it was indeed difficult to determine, whether the commissioners were less acquainted with the real nature of the papers they were to investigate, or the people of the country with the principles of law or equity, under which their property was to be placed by the new order of things.

The requisitions of the law of the United States, were tardily and

reluctantly complied with ; difficulties created delay, and many years passed away, before the real quantity of land claimed, could be ascertained with any precision ; and even at this time, when twelve years have elapsed, many of the larger claims are undetermined.

After the opening of the land offices in Louisiana, the commissioners found a number of claims for land held by actual settlement, without any title from the Spanish government

The United States government recognized these claims, and wherever it was practicable, six hundred and forty acres were surveyed, and appropriated to each claim.

Another species of claim presented itself in the shape of purchases from the Indians. As this mode of procuring land was so repugnant to the policy of the United States, the commissioners did not, perhaps, in every instance, make due allowance for the different principles upon which the former and present government, that held Louisiana, had proceeded respecting the Indian tribes. Those claims were, however, in most instances finally confirmed.

The land of Louisiana is generally surveyed in the form of a parallelogram, forty *arpents* deep, from front to rear : this mode, which commenced on the banks of the Mississippi, was pursued in all other parts of the country. In some of the larger claims, this principle was departed from, but in the common tracts, only a few deviations are to be found.

The *arpent* of Paris*, was the universal measure of land, and by it were all grants and sales made. The acre is not yet, and perhaps, in respect to land held under the ancient titles, never will be introduced into use, in Louisiana.

In lands that may be purchased from the United States, the tenure will always be, and the form of the tracts, in most instances, the same with all other lands, in every part of the United States, derived from similar purchase.

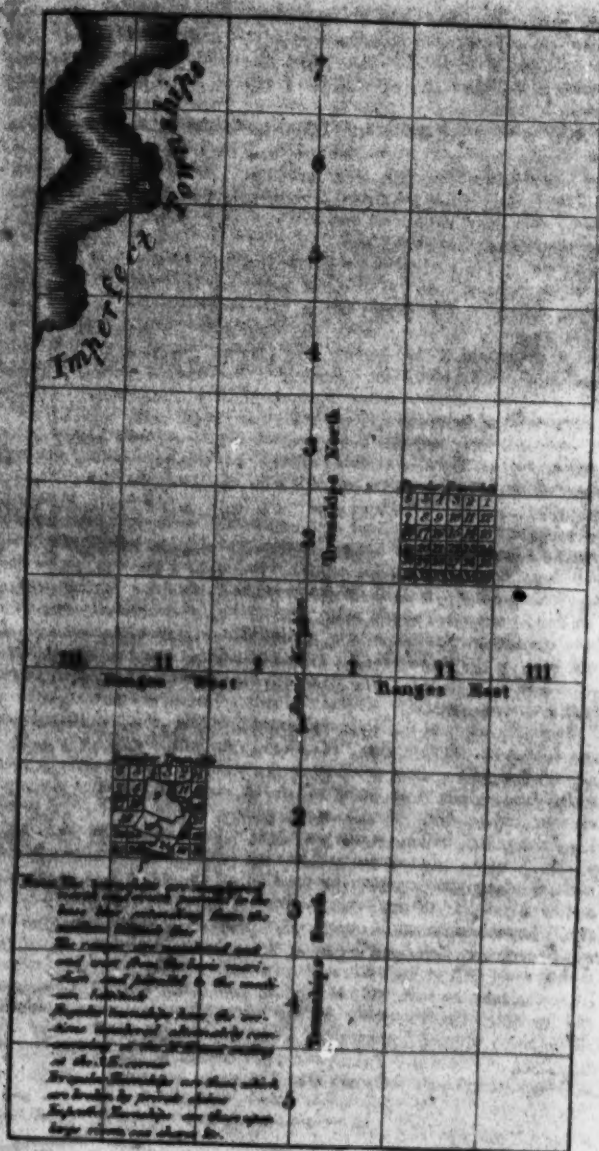
The following is the mode established by law, for the surveying and selling of public lands. I have annexed the form of a regular and an irregular township, to illustrate the true intent and meaning of the terms *section*, and its fractions, and the manner of numbering, by which the position of any part is known.

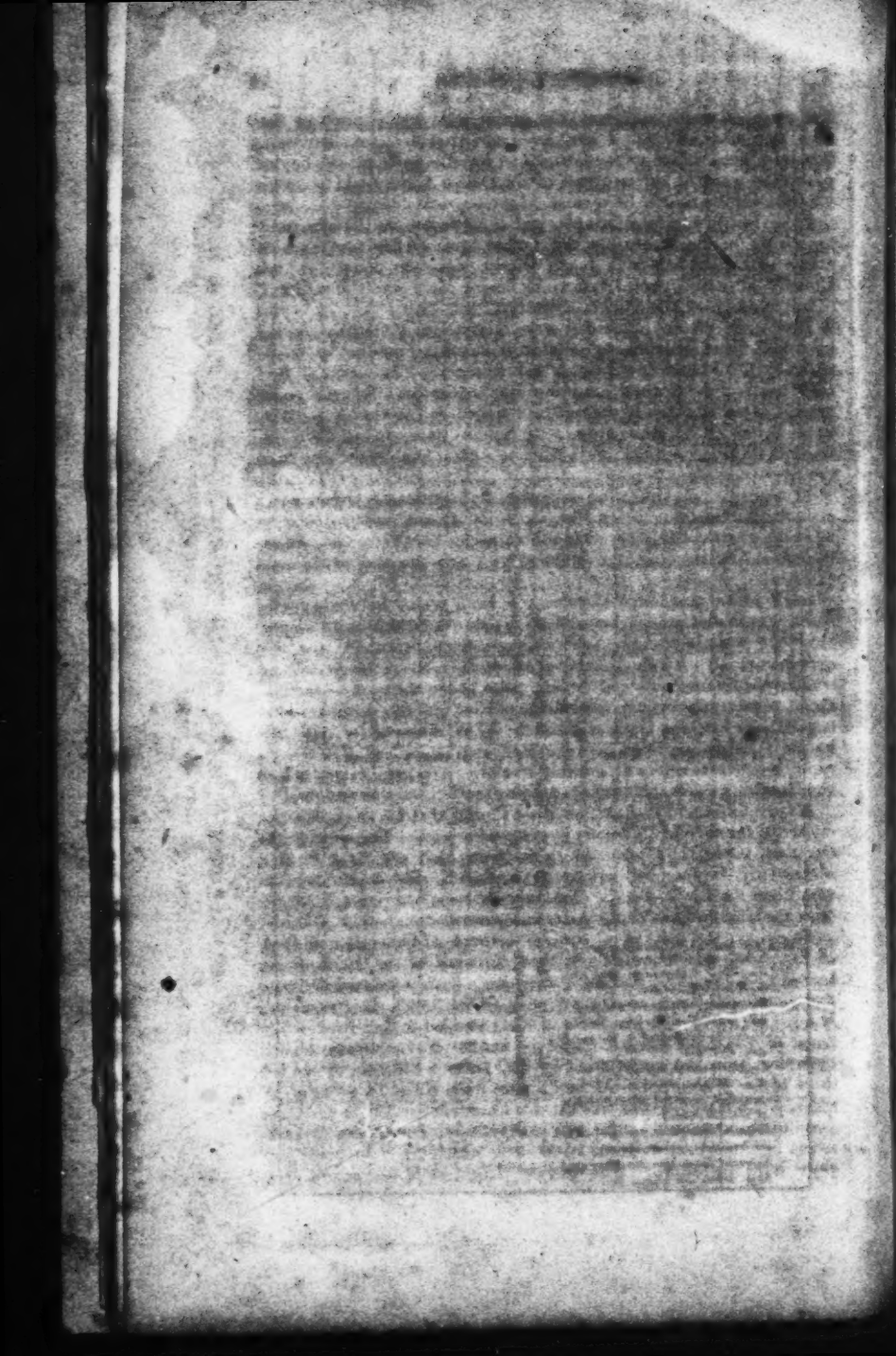
In Louisiana, innumerable instances occur, where, in the same township, there are private claims, the lines of which run in all directions ; and public land, the lines of which are run by the true meridian ; this constitutes an irregular township. This admixture of the different modes of surveying the contiguous land held under the various tenures, as before mentioned, takes place in all parts of the

* It is generally, even at this time, by the *arpent*, and not by the acre, that transfers of land are made in Louisiana, and as this custom will probably continue, the relative area ought to be known by emigrants.

The following formula contains the elements to reduce the one into the other. viz. 605 arpents make 512 acres, stated thus ; If 605 : 512 :: 100, and reversely, if the reduction is from acres to arpents.

The *arpent* is used also as a measure of length, being 180 feet, or 30 toises French, equal to 192 feet English or American feet, nearly.





country upon which settlements or grants were made, prior to the 20th December, 1803. There are large spaces of excellent soil, however, upon which no settlements or grants were made, before possession was had by the agents of the United States; and of course the townships here will be regular.

From Natchez to New Orleans, and as far below the latter city as the banks of the Mississippi are arable, the French and Spanish grants extend, and though much vacant land was found by the United States surveyors, I believe in no one place was it of sufficient extent to admit of an unbroken township.

The banks of the Lafourche were granted and actually settled upon both sides, about ninety miles from its efflux from the Mississippi, under the French and Spanish governments. The banks of Red river near Natchitoches, and the Rapide, and in the Avoyelles prairie, were extensively granted and settled.—The Ouachitta river, from its mouth to the entrance of Saline river, in lat. $33^{\circ} 6' N$. was also settled; and near Fort Miro, to a considerable distance from the river.

In Atacapas and Opelousas the grants and settlements commenced upon the Atchafalaya, below the mouth of Teche, and reached to meet the grants of Rapide. On the waters of the Vermilion, Courtableau and Mermentau, the grants were numerous and settlements extensive.

In all other parts of the state, the land ceded by the government, was in distant detached spots. Upon the Sabine and Calcasieu rivers the grants were few; most of the country remained, and now remains vacant. Above Natchitoches on Red river, the grants and settlements terminated about twenty miles above the post. On Ouachitta, considerable tracts still continue public property. In the very extensive tract between Opelousas and the N. W. angle of the state, following the dividing ridge between Red and Sabine and Calcasieu rivers, the surface is almost entirely vacant. The area between Red and Ouachitta rivers, also continues in a great measure unoccupied.

A great portion of that part of West Florida that has been incorporated into the state of Louisiana is yet public land. The only arable tract, yet public land, upon which the sugar cane can be cultivated successfully, is contained between the Lafourche and Atchafalaya rivers upon the Bayou Boeuf. This region remained unexplored till after the establishment of the American government.

To execute the surveys in the then territory of Orleans, now state of Louisiana, Mr. Isaac Briggs, then surveyor of the lands of the United States south of Tennessee, commenced, in the summer of 1805, the operation, by establishing the point where $33^{\circ} N. L.$ crossed the Mississippi river; that parallel was then extended to Red river, a distance of 148 miles and a fraction. The $31^{\circ} N. Lat.$ was extended to Sabine, from the point fixed by Mr. Andrew Ellicott, on the left shore of the Mississippi. At the distance from Ellicott's point of 48 miles, a due meridian line was extended north to the $33^{\circ} N. Lat.$ and south to the swamps upon the gulf of Mexico. These lines thus surveyed and marked, were the basis upon which the subsequent surveys were performed. The private claims were extremely com-

plex, and the interferences exhibited on the plan of the annexed irregular townships, were frequent and intricate. The difficulty of determining with precision the extent of private property was one of the many causes that retarded the final adjustment of the claims by the several boards of commissioners.

No sales of public land have yet been made in the state of Louisiana; of course all the settlements yet formed in that state are upon private claims, or by unauthorized locations on the lands of the United States.

The annexed tables will serve to show the relative position, quantity, and quality of soil in the state of Louisiana now claimed by individuals, or held by the government of the United States.

Crops—Culture.—As a general crop, cotton can be much more extensively cultivated in the state of Louisiana than sugar; the former is universal, whilst the production of the latter is confined to a very limited extent in the state. The opposite table was calculated in the country for publication in my tracts on Louisiana. The relative value as established by that computation has been considered correct; though each article is estimated lower than the ordinary price.

STATISTICAL TABLE of the extent of the Parishes of the State of Louisiana, and their Population, in 1810.

Parishes	Sq. Miles	Area	Popu- lation in 1810.	
Plaquemine	1,500	900,000	1,134,300	1,510
Orleans	1,300	635,000	805,000	24,552
St. Bernard	400	235,000	302,400	1,080
St. Charles	300	102,000	226,000	3,501
St. John Baptiste	150	96,000	112,450	2,990
St. James	170	108,000	129,554	3,955
Acadiana	320	224,000	264,070	2,219
Assumption	600	320,000	378,100	2,472
Interior of La Fourche	2,500	1,650,000	1,890,500	1,995
Iberville	350	224,000	264,510	2,670
West Baton Rouge	850	544,000	642,770	1,403
Point Coupee	800	304,000	453,720	4,530
	8,970	5,740,000	6,703,114	52,724

Atterial along the stream, principal part on the Mississippi; staples, sugar, cotton, and rice.
Atterial along the Mississippi, Bayou Gentilly, Bayou Metairie, and Bayou St. John; staples, sugar, cotton, and rice.
Atterial, and mostly upon the Mississippi bank; staples, sugar, cotton, and rice.
Atterial along the banks of the Mississippi; staples, sugar, cotton, and rice.
Atterial along the banks of the Mississippi; staples, sugar, cotton, and rice.
Atterial along both banks of the Mississippi; staples, sugar, cotton, rice, and lumber.
Atterial upon the Mississippi, Lakechar, Amite, and Atchafalaya; staples, sugar, cotton, rice, and lumber.
Atterial along both banks of Lakechar, Atchafalaya, and intermediate lakes; staples, sugar, cotton, rice, and lumber.
An immense Parish, consisting of level atterial soil upon the Lakechar, a great number of smaller streams, and upon the Gulf of Mexico; staples, sugar, cotton, rice, and cotton.
Atterial land, upon the banks of the Mississippi, Iberville, Plaquemine, and Atchafalaya; staples, lumber, cotton, rice, with some sugar.
Atterial land, upon the west bank of the Mississippi, and bank of Atchafalaya, and intermediate streams; staples, cotton, maize, rice, lumber, beef, and some sugar.
Atterial land, situated relatively, similar to West Baton Rouge; staples, cotton, rice, maize, lumber, beef, and some sugar.

STATISTICAL TABLE—Continued.

[illegible]

TABLE of the benefits resulting from fifty effective workmen on a Farm in Louisiana.

Staple.	Amount.	Price.	Nett Value.	Annual revenue from each hand employed.	Acres in cultivation.	The extent that may be found in the state of Louisiana, upon which each staple may be cultivated.	Remarks.
Sugar,	150,000 lbs.	8 cts. per lb.	\$12,000	\$240	150	0,250,000	From this estimate, if all the land in the state, upon which that article could be made, was cultivated in sugar, say 250,000 acres yielding 1,000 pounds per acre, at 8 cents per pound, would give 20,000,000 dollars
Rice,	700 barrels,	\$6 per barrel,	\$4,200	\$84	100	0,250,000	Rice demanding more labour to an equal surface, and producing more, if the rice lands were brought into culture, say 250,000 acres, which yielding 7 barrels per acre, at 6 dollars per barrel, would produce an annual revenue of 10,500,000 dollars.
Cotton,	60,000 lbs.	15 cts. per lb.	\$9,000	\$180	250	2,400,000	The cotton lands of the state of Louisiana, will average a produce of 240 pounds of clean cotton per acre: this would amount of 576,000,000 pounds, if all the cotton lands were brought into cultivation—leaving a revenue of 86,400,000 dollars.
Indigo,	7,000 lbs.	\$1 per lb.	\$7,000	\$140		2,000,000	
Tobacco,	100,000 lbs.	\$10 per cwt	\$5,357 12 1/2	\$107 +		1,500,000	

Note. The whole extent of the state of Louisiana, after deducting one-fifth for swamps, rivers, pine barrens, and other irreclaimable tracts, extends over 23,440,320 American acres. The space all owed for sugar has been descanted on; a round sum of 2,400,000 acres was assumed for cotton, amounting to little more than one-tenth of the whole surface. Indigo demanding a richer soil, but a similar climate with cotton, 2,000,000 cannot greatly depart from the surface upon which that staple may be cultivated. Tobacco can be raised in all parts of the state, but the soil suitable to its growth does not differ widely from that necessary for sugar—a deep vegetable hum.

Tobacco and indigo could be as extensively cultivated as cotton, but neither of the former offers as alluring prospects to the planter as the latter. Tobacco and indigo have each been staples of Louisiana, but have long been abandoned, and their places supplied by sugar and cotton.

To new settlers, and to persons of moderate property, cotton presents a more facile source of revenue, even in places where the soil and climate will admit the culture of sugar.

On the banks of the Mississippi below the efflux of Plaquemine, on the Lafourche in all its extent, on the Teche below the entrance of the Bayou Fusilier, and on the Vermilion below lat. $30^{\circ} 12'$ north, wherever the soil is elevated above the annual inundation, sugar can be produced. On all those places, except the Vermilion, sugar farms and houses are at this time established to advantage.

In all other parts of the state, cotton is the general staple. The quantity produced on the various soils differs greatly. The best districts for cotton in the state of Louisiana, are the banks of Red river, Ouachitta, Bayou Bœuf, the river Teche, and the Mississippi. Of those places a tacit preference has been given to the banks of Red river, and those of Bayou Bœuf. Many instances have occurred of two thousand pounds of cotton, with the seed, being raised in one season from a single acre of land; and a produce not much inferior has been realized from an extensive farm.

But though cotton succeeds best on the deep alluvion of the rivers, it is extremely profitable on the prairie land, distant from any considerable streams of water. On second rate land which occurs on the smaller water courses in the pine tracts, there are considerable bodies of land very favourable to cotton. This latter species of soil occurs extensively between the Red and the Sabine, and between the Red and Ouachitta rivers; most of it is yet the property of the United States. When a land office for entry is opened, many very desirable spots may be found in those places, having the additional benefit of being well supplied with springs of the purest water.

Rice can be cultivated in any part of the state of Louisiana, where the soil will permit its growth; the summers are of sufficient length below the 33° N. lat. to enable this grain to ripen. Rice is at this time the third in quantity and aggregate value of the staples of the state, though its culture is more particularly confined to the banks of the Mississippi, where irrigation can be more easily performed than in any other part of the country. This staple could be multiplied to any assignable extent, that the demands of domestic consumption or commerce should make necessary. There is an immense range of country between the Sabine and Pearl, more congenial to the culture of rice, than any other vegetable.

The production, however, perhaps of the highest value to the planter, on and near the Mississippi river, is Indian corn (*zea mays*). This invaluable plant may be called with strict propriety the nurse of the human species in the newly established settlements in America. It is every where found, on all soils and climates, from Canada to the Mexican gulf, and is, wherever produced, the principal article of food for man and his most valuable domestic animals.

There is no crop which differs so much in quantity in different seasons, and in different soils, as maize. I have myself known from five to one hundred and ten bushels produced from an acre in one year. The state of Louisiana is not the most favourable part of the United States for the culture of maize, but excellent crops are produced. The ground most congenial to its growth does not differ much from that suitable to cotton.

The time of planting maize below 33° N. lat. to the Gulf of Mexico, may be chosen from the beginning of April to the end of June. It is not unusual to see ripe maize in one field, and in the adjoining enclosure the young plant just making its appearance above the ground.

Wheat and rye might be cultivated in the state of Louisiana, but from the facility of importing flour and whiskey down the Mississippi, it is not very probable that either wheat or rye will ever be much cultivated where more lucrative staples can be produced.

The fruits most generally cultivated are, the peach, orange and fig; the apple is often seen, but does not thrive well;—the climate is perhaps too warm in summer. Plums, grapes, and pomegranates grow luxuriantly, and produce abundantly, but are neglected.

The gardens in Louisiana are not equal to what might be expected from the fertility of the soil, or mildness of the seasons. There is no country, however, that would admit finer gardens, nor a greater variety of plants, either for use or ornament. Those few persons who have made Horticulture their pursuit, and have given their attention to gardening, have succeeded. Amongst the best gardens yet formed in the state of Louisiana, or its neighbourhood, is that of M. Cevallos in the city of New Orleans, M. Bringier, at the Acadian coast, and the late Mr. William Dunbar of Natchez. In general, the attention paid to the culture of the rich staples, engrosses too much time and industry, to leave leisure for the more elegant, but less lucrative branches of agriculture.

Seasons—Inundation.—The seasons in Louisiana are extremely variable; the difference between two succeeding winters, at New Orleans, is frequently as much as could be expected in a change of four or five degrees of latitude. In the winter 1779–80, Bayou St. John was frozen for a considerable time; a phenomenon that did not again occur, until 1814, in the latter end of December. In ordinary seasons, the ponds and other stagnant waters, as low as 30 N. lat. is seldom frozen, though few of any winters occur, without frost at New Orleans. There is much more difference in climate, between Natchez and New Orleans, than could be expected from the relative positions of each. Snow is frequent at Natchez, and often falls in considerable quantity. The orange tree and sugar cane are often destroyed by frost, even upon the shore of the gulf of Mexico. At Natchez, the peach is rendered precarious from late frosts in the spring; at the latter place, the cotton is often killed late in April.

Those unseasonable storms, that occur in every part of the United States, are frequent and destructive along the gulf of Mexico. The church of St. Landré, at Opelousas, stands in 30° 32' N. lat. At that place, in the month of January, 1807, the snow fell in consider-

able quantity, and remained on the ground upwards of a week. At the same place, in the month of January, 1812, snow fell nearly a foot in depth, and remained several days on the ground; and late in April, 1814, the blossoms and tender branches of the Pride of India, (*Melia Azederach*.) the young peaches, the cotton, and even the flowers and twigs of the oak, were destroyed.

About 30° N. lat. may be assumed as the region of snow; few if any instances occur of its falling below that parallel. When the snow fell and lay upon the surface of the earth, nearly a foot deep, at Opelousas, there was only a heavy rain at New Iberia, $30^{\circ} 02'$ N. lat.

There is a singular coincidence between the line where snow ceases, and sugar cane commences. The highest point in, or near the valley of the Mississippi, where the sugar cane has been cultivated to advantage, is about $30^{\circ} 12'$ N. lat. or but a little north of the line of occasional snow. Many attempts have been made to cultivate sugar cane, above 31° N. lat. some of which produced delusive results, as no instance has yet occurred, where the existence of that plant was not found precarious, when attempted in places where snow had been frequent.

There are vegetable and meteorological analogies, that ought never to be disregarded in our observations on climate. The orange tree in Europe is found to flourish farther north than the sugar cane; in North America, the contrary effect has been observed; but in neither place, can one of those two vegetables be cultivated to advantage, where the other is liable to destruction, by frost. In Louisiana, the orange tree ceases about $30^{\circ} 05'$ in the delta of the Mississippi, and in Attacapas 12 or 15 minutes of latitude more southwardly.

There can be no doubt that considerable advantage would be gained, if the seed of vegetables liable to destruction by frost, were brought from as northern a position as possible. This precaution has been entirely neglected in Louisiana; the cotton, cane, and orange, have all been imported from within the tropics.

The cause that has the most extensive effects upon the climate, soil, and health of the inhabitants of Louisiana, is the inundation of the Mississippi, and its confluent rivers. From an attentive observation made during a lapse of many years, the author is well convinced that the causes and extent of the inundations that annually submerge the delta of the Mississippi river, have hitherto been very much misunderstood. During the time that elapsed from 1806 to 1814, the author of this work was every season actively employed in surveying in and near the overflowed lands of the Mississippi, Atchafalaya and Red rivers, and observed the various phenomena of the inundations, as they presented themselves. A calculation of the ground now liable to actual submersion, will, from its small area, excite astonishment in the minds of those who believe whole countries are every year laid under water.

The distance in width from the high lands on the east, to those on the west side of the Mississippi, is, from the 33° N. lat. to the mouth of the Red river, at a medium, twenty miles. At two points, the island of

Sicily and Providence lake, the overflowed lands are contracted to less than twelve miles in a direct line from the margin of the Mississippi. Above the mouth of Red river the medium width of the overflowed lands may be assumed at twenty miles; this will yield between 31° and 33° N. lat. 2770 square miles. Below 21° N. lat. as far as the efflux of Lafourche, about 80 miles in length, the extent of the inundation does not vary much from 40 in breadth, giving 3200 square miles area. All the country below the efflux of the Lafourche, is reached by the overflow of the Mississippi river, and is equal to 2370 square miles: this latter sum, added to the two former, gives 8340 square miles as the entire overflow of the Mississippi in the state of Louisiana; and if to this, be added 2550 square miles for the inundated lands of Red river, the whole superficies in the state liable to overflow, will amount to 10,890 square miles. Of this extent, not one half is actually covered annually with water. The immediate banks of almost all the streams are seldom, and many of them never inundated. There are sufficient data to establish the fact, that the actually overflowed parts of the state of Louisiana, fall short of 4000 square miles, or less than one twelfth part of the whole surface of the state. In the state of Mississippi, the inundation is so confined in its width, and so often interrupted entirely by the projecting bluffs, that it does not exceed, if it indeed amounts to 1000 square miles. Thus the entire surface of country to which the inundations extend, falls short of 12,000, and the area absolutely submerged, of 5000 square miles; being less than the eighteenth part of the two states of Mississippi and Louisiana.

Amongst the many unfounded conclusions that have been drawn, relative to most parts of America, several of the most absurd relate to the phenomena attending the Mississippi. Mr. Hutchins considered floating timber as one of the principal causes of the changes in the course of that river, and this opinion, though obviously contradictory to the common laws of nature, has been transcribed into almost every work on the subject since its first publication. To any person who has visited and examined with any circumspection the operations of nature in the delta of the Mississippi, the causes of change will appear to lie much deeper, and to be more efficacious, than floating trees. He will also find, that the changes themselves have been overrated beyond measure. There is not the smallest trace of evidence in the country, to justify the conclusion that the Mississippi has ever flowed in a channel very different from that in which it is now confined. The lakes in its vicinity are all evidently remains of former bends of the river; they differ essentially from other lakes of the country. Lake Providence, Yazoo, St. Joseph, St. John, Concordia, Homochitta, and Fausse riviere, have traits of resemblance to the present bends of the river, and to each other; but their appearance entirely differs from Pontchartrain, Mausepas, Chetimaches, and the lakes in the inundated lands of Red river.

The entire delta has, no doubt, been formed by the alluvion borne down by the surplus water of the various rivers that flow over it, principally the Mississippi; but the streams themselves are as much confined to constant channels as other rivers. The idea that the ri-

vers of Louisiana flow upon a ridge, has arisen from inattention to their depth. The country included in the delta has so little inclination, that the water can only flow from the gravity and impulse of the superincumbent mass, and the surplus after escaping from the channels of the rivers, finding an immediate level, rests and accumulates on the adjacent land. These are the true causes of the inundation.

The rapidity of the entire body of water in the Mississippi has been also overrated, to more than five or six times its real motion. That this error has been made, every person may be convinced, who will carefully compare the various accounts, given in our books of geography and travels, with the time that actually elapses between the breaking up of the snows towards the heads of the Ohio, Mississippi and Missouri, and the passage of the water over the delta to the gulf of Mexico. I have drawn the following table, in order to exhibit the length and respective climates, from which flow the various branches of the Mississippi; and to illustrate the causes that produce, and the seasons of inundation.

Principal streams that contribute to form the Mississippi river.	Distance of their mouths from that of the Mississippi.	Distances of their sources from the mouth of the Mississippi.	Latitude of their sources.	Seasons when their inundations commence.
Red river	800	1750	37° N.	February
Arkansaw	650	2300	41° N.	March
White river	630	1300	36° N.	February
Ossage	1350	2100	36° N.	February
Kansas	1550	3400	40° N.	March
Platte	1300	2900	42° N.	April
Missouri	1200	4000	45° N.	April
Yellow stone	3050	3900	43° N.	April
Bighorn	3300	3800	42° N.	April
Mississippi	1200	2300	48° N.	May
Illinois	1215	1700	42° N.	April
Wabash	1150	1650	41° N.	May
Tennessee	1050	1750	31° N.	February
Ohio	1000	3200	42° N.	March
		36,050		

The times of the year when the various streams commence their greatest flood, as stated in the table, are merely approximate; considerable variances take place in different years. In the years 1800 and 1801, the Mississippi did not overflow its banks. The ordinary time of extreme high water is at Natchez, the fifteenth of June, and at New Orleans, the first week in July. Calculating the velocity of the water in the various rivers by the distance and times of flowing from their sources, the medium motion falls short of 20 miles in

twenty-four hours. The lower waters of the Ohio drains out in February, but those of the Monongehela, Aleghany, Muskingum and Kenhawa, do not reach in common years their height, before the first of March. The distance from the mouth of Kenhawa to Natchez is nearly 1300 miles. The waters in passing over this space occupy about 100 days.

The current, as it is usually understood, is the motion of the upper part of the stream. A boat floating only during the day, or one half of the time, will, by taking advantage of the current, always pass the apex of the flood. The motion of the current, and entire mass of water, differ in all rivers; in that of the Mississippi, the relative difference of 5 to 1, would perhaps be but little variant from the reality.

From an inspection of any good map of North America, it will at once appear, that from their position, and from the various climates they traverse, that the waters of all the branches of the Mississippi must drain gradually. The fact is consonant to the theory. Therefore if the motion of the body of water was not very slow, no inundation of the delta of the Mississippi could happen, as there would not be time for an accumulation to take place.

There are few subjects where correct opinion would lead to more beneficial consequences, than respecting the floods of the Mississippi. If the inhabitants could be made sensible of the true causes of the overflow, it would prepare their minds to consent to the adoption of more effectual preventives, than any that they have yet attempted.

To gain clear conceptions on this subject, it is necessary to consider the water at the time of the highest flood, as in reality divided into three parts; that part which flows in the natural channels of the rivers; that which composes the overflow; and that part which lies stagnant in lakes, ponds and the inundated bottoms.

Of the surcharge from the Mississippi river, four-fifths leave that stream by the efflux of the Atchafalaya. The latter river is 111 yards wide, where it leaves the former, and its extreme depth 15 or 20 feet. Through this passage no water leaves the Mississippi except in the time of freshes.

At its efflux, the current of the Atchafalaya is very rapid, but gradually abates as it proceeds in its course, and assumes, about ten or twelve miles from the Mississippi, a motion not essentially different from the latter stream. After the Mississippi floods have fallen beneath the ordinary banks, the Atchafalaya becomes completely stagnant in all its length. Often the tides, though never more than $2\frac{1}{2}$ or 3 feet in the gulf of Mexico, flow up the Atchafalaya within thirty miles of its efflux. The author was an eye-witness to this effect in the years 1807, 1808, 1809 and 1810. He also saw with pleasure and astonishment, in October, 1808, at the lower extremity of the large raft, the water of the Atchafalaya extremely transparent. The change from the turbid appearance of the stream in the spring and summer of the same year, was really striking. The limpid state of the water arose from its remaining a considerable time totally tranquil. A few days reversed the scene; the Mississippi overflowed in the latter part of October; in November, excessive rains

fell, and the usual features of an inundated country exhibited themselves.

From the mouth of the Mississippi river a strong current sets westwardly along the shores of the Mexican gulf, carrying with it the timber brought down by that stream. That this current is uniform is proved by the fact, that none of the *debris* thrown into the gulf by the Mississippi is found to the northeast of the mouth of that river, whilst to the west the whole coast is strewn with cotton wood, cypress, and other trees, with rails, planks, pieces of flat bottom boats, and in fact wood in all the forms into which it is generally wrought, and left exposed to be swept away by the flood.

When the author was at the mouth of the Sabine in December, 1812, he had full leisure and means of examining the coast of the Mexican gulf. Near the mouth of the Sabine and Calcasieu rivers, no timber is found but what is cast on shore by the tides, and trunks of the largest trees are often found lying upon the strand.

It would appear from an inspection of a map of the gulf of Mexico, and Caribbean sea, that the current flows from the latter into the former, between Cape St. Antoine, and assuming a northern direction, reaches the shore of Florida, between the Apalachicola and Mobile rivers, and there divides; one part traversing the western shore of East Florida, encounters and is carried away by the gulf stream, between Florida Point and the island of Cuba; but much the largest mass turns to the west, passes along West Florida, Alabama territory, the state of Mississippi, Louisiana, and the province of Texas, until reaching the bay of St. Joseph, it winds with the coast to the south, along the shores of the vice-royalty of Mexico, and finally sweeping the bay of Campeachy, and the western and northern shores of Yucutan, meets the current from which it originated. This current is the parent of the gulf stream, and divides the gulf of Mexico into two immense, but unequal whirlpools.

Admixed with the masses of timber along the shores are found pumice-stone, in fragments from the size of a pea to that of a flour barrel. This substance is no doubt brought from the volcano of Orizaba. Tropical fruits, leaves and trees, are also found in abundance.

Navigable Streams—Roads—Crops—Fruits.—From New-Orleans to the bar at the mouth of the Mississippi:—

	No. 1.	Miles.
To General Villaret's,	- - - - -	6
To Terre aux Bœufs,	- - - - -	3
English Turn,	- - - - -	2
Fort St. Leon,	- - - - -	5
Gentilly,	- - - - -	10
Point Le Hache,	- - - - -	14
Fort St. Philip, at Plaquemine Bend,	- - - - -	30
Efflux of S. W. Pass,	- - - - -	20
do. South Pass,	- - - - -	1
do. Pass à le Loutre,	- - - - -	6
Balize,	- - - - -	6
Bar,	- - - - -	3

The settlements continue in descending the Mississippi, from New

Orleans compactly on both banks of the river to the Point le Hache. Terre aux Bœufs is a settlement, which is connected with those on the Mississippi, and winds along both banks of a small ancient outlet. The lands upon the Terre aux Bœufs are excellent. Sugar, cotton, and cattle are the staples of this settlement, and some fine sugar-houses are established. The adjacent country towards Lake Borgne and Chandeleur bay is an open grassy morass.

The Terre aux Bœufs abound in excellent live oak, which is in a state of rapid destruction, occasioned by burning the cane and grass intermingled with the trees, and by clearing the land.

Below Terre au Bœuf is the bend of the Mississippi, to which has been given the name of the English Turn (*Detour Anglais*). The cause of this name is known to very few persons. In the early settlement of Louisiana by the French, the English government sent out a small squadron, consisting of a frigate and one or two other vessels. This expedition was for the purpose of exploring the Mississippi. The squadron succeeded in finding the mouth, and ascending the river to the bend that is now in question. A French officer met the squadron, and succeeded in persuading the English commander that the stream that he was then on was not the great Canadian river, as it was then called, but another of far less consequence; that the object of his search was farther westward. In consequence of this information the English officer quitted the Mississippi, and went in search of it to the west; then finally abandoned the enterprise, and returned to Europe. From this circumstance the present name arose.*

The manner in which the Mississippi turns at the English Bend creates some embarrassment to vessels coming up to New Orleans, but must contribute in time of war to the safety of that city, on account of the difficulty of passing it with the same wind by which it is approached.

The bend of the Plaquemine, (*Persinson*), opposes the same kind of obstacle to commerce as that of the English Turn, and will be always even more efficacious in arresting the advance of an enemy. From the nature of the adjacent shores, an army could be disembarked below the English Turn, on either bank, and pass the forts; but at St. Philip, the swamps approach so near the margin of the river, that to pass with artillery unexposed, would be extremely difficult. The value of Fort St. Philip was made manifest in the last war between the United States and Great Britain.

Below Plaquemine, all possibility of settlement for agricultural purposes ceases; and excepting some fishermen's huts, and the residence of the pilots at the Balize, no human habitation is seen. Some scattered clumps of trees are found along the shore, but the general surface of the little land that rises above the water is marsh prairie. The aspect of the country is lifeless and dreary, and even the low, grass-constructed cabins of the fishermen contribute to the melancholy appearance of the scene. On leaving the mouth of the Mississippi, you almost imagine yourself to have passed the last verge of terrestrial existence.

There are six outlets to the Mississippi; the west, southwest, south, main, or northeast, north, and Pass à la Loutre. Of these, the north-west, and northeast, have each about an equal depth of water, viz. twelve feet, on their respective bars. The west pass has nine feet, the south eight, and the north, and Pass à la Loutre also, about eight feet water.

At present only the pass of the northeast is used extensively; more than nineteen-twentieths of the vessels that enter or leave the Mississippi, pass by this route.

It has been an interesting subject of inquiry, how far the mouth of the Mississippi would admit of improvement. Serious attention to the subject has been prevented, as have many other practicable improvements, by the erroneous idea that the channels are extremely changeable, and that a rapidly increasing alluvion would retard and ultimately destroy the fruits of any labour and expense employed to deepen the channels over the bars of this great river.

The author of this treatise measured and sounded the west, southwest and main, or northeast passes, and could not perceive even a possibility of a very rapid accumulation of earth. Within thirty feet of the bar in the southwest pass, in the outside, there is five fathom water. The inside shoals more gradually. The other passes exhibited nearly similar features. In all, in the inside, at the distance of a quarter of a mile, there is four fathom water.

The bottom is every where a hard tough tenacious clay. There is every reason to believe, that at no great expense, double rows of piles could be driven, leaving space between for the largest vessels, and that the earth could be scooped out between, and the channel deepened sufficiently to admit ships of the line to enter.

There is nothing hazardous in the prediction, that within less than half a century, millions of acres of land, now abandoned to the waters, will be reclaimed, and made the residence of man, and that ships will sail into the Mississippi, of a draught greater by far, than any that can at this time either enter or leave this invaluable stream. More correct and more liberal conceptions of improvement, will expel the apathy that now prevails in that country, which is destined to reap the richest fruits, afforded by the commercial and agricultural facilities by the Mississippi.

No. 2.

From New Orleans to Mobile and Blakely:—

	Miles.
Fort St. John, ...	5 5
Point aux Herbes, ...	10 15
Fort Petites Coquilles, ...	4 19
Western mouth of the Rigolets, ...	1 19½
Eastern mouth of the Rigolets, ...	9 28
Isles aux Malbeureux, ...	9 37
St. Joseph's Island, ...	7 44
Marianne Island, opposite the mouth of the bay of St. Louis, ...	5 49
Pass of Christian, opposite Cat-Island, ...	4 53
Mid-channel, between Biloxi Bay and Ship-Island, ...	20 73
Opposite Dog-Island, ...	20 83
Western end of Dog Island, ...	8 91

	Miles.
Opposite the mouth of Pascagoula, - - - - -	10 101
Mid-channel, between the eastern end of Horn-Island and Round-Island, - - - - -	6 107
Western end of Isle au Petite Bois, - - - - -	6 113
Eastern end of do. - - - - -	7 120
Western end of Dauphin-Island, - - - - -	4 124
Entrance of the Pass aux Herons, - - - - -	3 127
Mobile Bay, - - - - -	5 132
Bar opposite Dog-River, - - - - -	15 147
Entrance of Spanish-River, - - - - -	5 152
Head of the Mobile-Island, - - - - -	6 158
Mobile, - - - - -	6 164

The inside passage from New Orleans to Mobile and Blakely, and of consequence to all the country upon the waters of Mobile, Alabama, and Tombigbee rivers, is perfectly safe and commodious for small vessels. The depth of water in the passes of Christian and Heron is not sufficient, in ordinary times, for vessels of more than six feet draught. The force of the sea is broken by the long peninsula that bounds Lake Borgne on the southeast and by a chain of islands, consisting of Malheureux-Islands, Marianne-Islands, Cat-Island, Ship-Island, Dog-Island, Horn-Island, Isle aux Petites Bois, and Dauphin-Island. The bottom of this strait is a soft sand. A singular circumstance, communicated to the author by an intelligent commander of a vessel, respecting the nature of the component parts of the banks upon the islands and main shore, may be of some use to persons navigating in this place. The person who made the communication had navigated frequently between New Orleans and Mobile; and observed, that in the darkest night he could always determine on which side of the strait the vessel was in, as along the islands there were no shells mixed with the sand, whilst broken shells were invariably brought up by the lead when on the main shore. This information is introduced here, with the more confidence, because perfectly corresponding with the observations of the author.

The southern shore of Lake Pontchartrain is low land, scarcely rising above common tides, with very little timber. There are two passages from Lake Pontchartrain into Lake Borgne; the pass of the Rigolets, and that of Chefmanteur. The latter is of little consequence, not having more than four feet water on its respective bars.

The Rigolets are properly the mouths of Pearl river, and afford nine feet water at each extremity. This pass, either in a commercial, naval, or military view, is of great consequence; it is, in fact, after the Mississippi, the most important inlet of Louisiana, and ought to be strongly fortified.

Lake Borgne is a prolongation of the strait reaching from the Rigolets to Mobile; it is about 35 miles in length from Cat-Island to the mouth of Bayou Bienvenu, with a medial width of twelve miles. Lake Borgne is chequered with two groups of small islands. Malheureux and Marianne Islands. It is generally extremely shallow. Excepting a narrow channel running along its northwestern border,

there is not more than two feet water to be found in the whole expanse of the lake. Lake Borgne is terminated on the N. E. by the beautiful bay St. Louis; on the east by Cat-Island, and S. E. by a long flat peninsula already noticed.

There are three passes, from the east extremity of Lake Borgne; the pass of Christian, pass of Marianne, and that of the southeast; the former is generally used in navigating between Mobile and New Orleans. There is excellent anchorage on the southwest and north of Cat-Island. The island is itself a mere bank of sand, but might be rendered of importance by its position. It was to the south of this island that the British ships of the line lay during the campaign of 1814-15, in Louisiana; their smaller vessels took shelter on the north side of the island.

Nearly opposite Cat-Island, and east of St Louis Bay, the coast assumes a totally different aspect from the alluvion of the Mississippi. Pine woods are now seen extending to the sea-shore, and the surface of the earth is elevated above the reach of inundation. The soil is sterile, but the people of the country are healthy.

There are scattered settlements along the margin of the strait. The inhabitants raise large stocks of cattle and horses, and make lime and tar for the supply of New Orleans. The lime is mostly made from oyster-shells, and is of excellent quality.

Two rivers of considerable consequence fall into this channel, the Pearl and Pascagoula. The settlements on these rivers are already respectable, and are increasing in strength and wealth. The navigation of the Pearl is obstructed by shoals and timber, but it is probable that without any very considerable expense its navigation might be improved to a great degree. Monticello, in Lawrence county, the present seat of government of the state of Mississippi, stands on the west bank of the Pearl river at $81^{\circ} 33'$ N. lat. being exactly on a due east line from Natchez.

The Pascagoula affords better navigation than the Pearl. Schooners drawing five feet water go up to the junction of Leaf and Chickisawhay rivers. The general surface of the country below 31° N. lat. and on the Pearl and Pascagoula, is sterile; but much good land is to be met with; and which admitting the culture of cotton, the settlements must flourish. Ever since the establishment of the United States government, emigrations to this quarter have been continually going on, but since the conclusion of the last war, the numbers are greatly augmented.

The provisional line between the state of Mississippi and Alabama territory, terminates on the east side of the estuary of the Pascagoula. This line follows the general course of the latter river and the Chickisawhay.

East of the Pascagoula to the Mobile, the aspect of the country, both on the sea-shore and interior, remains unchanged. The islands are, like Cat-Island, an embankment of sand, chequered with a few dwarf pines and sea-myrtle bushes. There are passes from the inner channel to the open gulf, between Cat and Ship-Island, between Dog and Horn-Island, and between Horn-Island and Petite Bois.

Pass *sax* Herons, leads into Mobile bay, and is crooked, and the shallowest water between New Orleans and Mobile or Blakely.

After entering into Mobile bay, the water deepens to 14 feet, which depth continues to the bar, where it shallows to 11 feet. After the bar is passed, the depth again is found to be about 13 or 14 feet to either Mobile or Blakely.

Though Mobile was amongst the first places established by the French after their arrival in the gulf of Mexico, it remained a mere military post during the existence of the French and Spanish authority in Louisiana. After the United States had taken possession of Mobile, as part of West Florida, the town continued, as formerly, of little consequence; but since the events of the last war, which put the fertile and extensive regions on the confluent waters of the Mobile river into the hands of the United States, the town then began to have some importance as a commercial depot. Events have succeeded in this quarter with a rapidity that scarcely leaves the mind leisure to pursue the chain with precision. Population has increased rapidly, and commercial capital accumulated beyond the possible calculation of the most active foresight. It was at once perceived, after the cession of the adjacent country to the United States, that a depot must be sought upon or in the vicinity of the Mobile bay. Various places were selected by different persons. Mobile, Blakely, Fort Stoddert, Fort St. Stephens, and Fort Claiborne, have all their advocates. There can be but little doubt that the rivalry must rest between Mobile and Blakely; the facility of approach from the sea must decide the contest. The depth of water to either place is nearly equal. Both towns are situated on elevated, solid, and dry banks of the bay.

It is pleasing to behold the emulation of industry and peace, to see new towns, farms and manufactories, rising, where silence and desolation reigned twenty years past, and where only five years have elapsed since that silence was broken by the din of arms, and where cruel massacre stained the earth with the blood of the most innocent and helpless part of the human race.

The region watered by the Mobile river, and its confluent streams, has gained, within one or two years past, an attention from the American and foreign emigrant, that the softness of the climate and the extreme variety of the soil will long preserve. There are many extremely valuable vegetables not yet introduced into the United States, which might, from the great diversity of seasons, soil and climate, be easily cultivated with advantage. There is, perhaps, scarcely one vegetable ever reared out of the tropics, that might not, in some situation or other, be brought to maturity in the United States.

There is one branch of geographical science, and that the most important, which is neglected; namely, the local residence of vegetables. Animals, from their locomotion and the warmth of their blood, can never be a correct thermometer of climate; whilst vegetables, from their fixity, and from their liability, of many species, to perish by the action of cold, are the true tests that disclose the changes and the character of any given climate. MAN, the horse, the dog, the common poultry, and some other of the gregarious animals which have submitted to domesticity, are found in almost every part of the globe; the bear and

fox, amongst the still untamed species of animals, are met with, wherever man has yet penetrated.

Vegetables, though less flexible than animals, yet, where one of each kingdom are acclimated together, the vegetable can support much the most severe cold; but when transported to a new and more northern residence, directly the reverse effect is produced.

A work that would embrace a clear, detailed, and accurate history of the emigrations and locality of vegetables, would be an acquisition of inappreciable value to mankind.

Ever since the cession of the wide region of Louisiana to the United States, the important question, whether any of this country will admit the culture of the vine and olive, has been agitated. This very interesting inquiry is now in train, to lead to decisive results. The United States' government has granted to a company of French emigrants a tract of land, in order to make the necessary essay. We have thought it not irrelevant to give, in this volume, a sketch of comparative geography, in order to enable the emigrant to form his own conclusions, on the probabilities of success, and upon the judgment of those who selected the spot, where the views of a liberal government were to be carried into effect.

The government of the United States, by an act of congress, has granted to a company of French emigrants at a maximum price of two dollars per acre, four contiguous townships, or 92,160 acres of land, to be located on lands ceded by the Creek nation of Indians to the United States. The condition of this grant is, that the emigrants shall introduce the culture of the vine and olive.

Of all the vegetables cultivated by man in other countries, and not yet introduced into the United States, the most valuable are the vine, olive, and white mulberry. Wine, the olive, and silk, have been brought, each one, to the greatest perfection in the vicinity of one another.

Though there are many circumstances in which a considerable contrast does exist, yet there are many features in which the south of France and that of the United States have a striking resemblance. In determining whether any given vegetable can be introduced into climates to which it is a stranger, much trouble and expense might be saved by a strict examination of the respective characters of the soil and seasons from whence the plant is taken, with those into which it is to be introduced.

To give this interesting subject as much perspicuity as possible, their local position in Europe, particularly in France, where the vine, olive, and white mulberry are cultivated, is given in this treatise, and the account has been drawn from the most respectable authority, and is now presented to the reader, in comparison with Louisiana, Mississippi, and Alabama. It may be remarked *en passant*, that from the time the ark rested on mount Ararat, to the present day, wine has never been made to any great perfection upon the alluvial soil of large rivers. The following translations from the most authentic works will be the best illustration of this assertion.

"That part of *Champagne*, so renowned for its vineyards, is one of the most sterile parts of France. It presents an unbroken plain, where you meet almost every where fragments of chalk, or red sand-

stone, with little earth, and some fossil shells. The view is only occasionally relieved by a few small bushes, or trees in a languishing state."*

"It is remarkable that the culture of the vine, after being attempted in every part of the basin of the Seine, remains confined to the parts most distant from the sea, such as the former province of the Isle of France and Champagne. When it is observed, that Normandy is traversed by the 49° N. latitude, the same parallel in which are found the vineyards of Epernay, the absence of this precious plant in Normandy cannot be attributed to mere difference of latitude."†

"They distinguish in Burgundy, two parts in respect to wine; the high and the low. Lower Burgundy is a very extensive vineyard, that contains several cantons, renowned for their red and white wine. The wine of Lower Burgundy is amongst the best in France, little inferior to that of Higher Burgundy, which it even sometimes excels. The wines of Higher Burgundy are the best in humid, those of Lower Burgundy, in dry seasons. As in ten years there is scarcely one dry, it follows, that ordinarily the wines of Higher have an advantage over those of the Lower Burgundy."‡

"*Dauphiny:—Climate—Productions.*—Between the river Rhone, the lake of Geneva, Mount Ventoux, and the Alps, is situated Dauphiny. This region is of very unequal elevation, from 14,700 to 500 feet above the level of the Mediterranean sea. The exposures and inclinations of the land vary to infinity, from the profound Alpine valleys, deprived for several consecutive months of direct solar light, to the renowned vineyards that bear so justly the title of Côte Rotie.§ In the neighbourhood of Briançon, the snow remains often seven or eight months together in the valleys. Summer, itself, is here subject to violent winds, that often bring a freezing cold. Hurricanes and sleet constantly menace the hopes of the cultivator. Mount Lion, formerly Mount Dauphin, in the Higher Alps, situated 45° 20' N. lat. has the climate of Sweden."||

"Anjou, Tourraine, Orleanois, Berri, and Basse-Auvergne, produce good wine, though the culture is not very skilfully managed. The vineyards here display many exceptions to the general rule; according to which, *southeast exposure is the only one favourable to the vine.*"

The following is a singular instance of the unity with which nature pursues her operations. There are two situations in the southern parts of the United States where the native grape-vines produce excellent fruit. One is the dry sides of pine ridges—the other the sandy banks of streams. In what may be called a deep vegetable loam, collected as alluvion or otherwise, if silicious sand is absent, the grape-vine is absent also, in most cases.

* Universal Geography by M. M. Mentelle and Malte Brun. Vol. XVI. p. 34.

† Ibid. Vol. VI. p. 603.

‡ Ibid. Vol. VII. p. 60.

§ Literally, toast and butter; figuratively, milk and honey.

|| Universal Geography, by M. M. Mentelle and Malte Brun, Vol. VI. p. 518.

Chaptal, in the General Statistics of France, remarks, that the fine wines called the *Hermitage*, are produced in a *granitic sand*.

One well established fact is of more value than a thousand theories. There is a general principle upon which all authors who have written upon the subject of the vine, seem to consider incontestable, namely, that, to produce good wine, the soil upon which the vines grow, must be sandy. This concurrence will appear more striking in the sequel of this treatise.

An excellent French work, entitled "*Cours d'Agriculture*," by the Abbé Rozier, under the word olive, describes the tree, and explains the nature of the soil and situation most suitable for its culture. The above work is entitled to great credit on this subject; it was compiled by a judicious, well-informed man, who resided in the country, and of course had access to the most respectable sources of information. We have translated and inserted in this work the most essential part of the information necessary to enable the American experimentalist to form correct analogical deductions.

Before entering upon the subject of the culture of the olive, we have given the Abbé Rozier's description of the great basins of France. We have translated this excellent article nearly literally, as it contains not only the *locality* of the olive, but of the vine also, and will serve as a true basis upon which accurate comparisons may be made between the climate of France and that of the United States.

"By basin is understood that body of land over which a river draws its waters; thus the line that separates one river from another ought to be more elevated than the rivers themselves, in order to determine the slope upon which the rivers flow. Thus the chain of mountains that traverses the Vivarais, le Forez, and Bourbonnois, and from which the waters flow on one side, towards the Atlantic ocean, and on the other towards the Mediterranean sea, affords an example of this kind. The same peculiarity is again found in the mountains of Lower Languedoc: We may, then, in general say that France is divided into two great basins; but the discrimination offers nothing upon which determine conclusions can be formed.

"The extent of the great basins comprehends often several provinces, and sometimes divides a province into two parts; because the division of the kingdom into provinces, is traced by the hand of man, whilst those of the basins are designed and fixed by the hand of nature.*

* The profound philosophical remark contained in this contrast, ought to be kept in view by all men who make the science of geography their study. Nothing is more common or more absurd, than the usual mode of expression respecting any given territorial division; that such a country is cold, warm, moist, dry, level, hilly, mountainous, barren, or fertile, is in the mouths of the greatest part of mankind; whilst, in fact, there are but few political divisions of any considerable extent that do not contain parts deserving, respectively, all those characteristics.

There is an utter impossibility of becoming perfect in geographical knowledge unless the student commences by studying the natural divisions, and understanding them comprehensively, before attending to artificial lines of demarkation. There exists no country where this course is more necessary than the United States, because there are none where less respect has been paid to the natural divisions.

Basin of the Rhone, and confluent rivers.—"The rivers in this basin, flow from the north or east, relative to their general mouths, and enter the sea to the south. This basin is perfectly characterized by the great chains of elevated mountains that circumscribe it on all sides, except towards the mouth of the Rhone. It is clearly visible that the river has successively undermined, destroyed, and overturned the chain of rocks, and opened a passage; and that the chain was formerly continuous from Nismes to Arles.

"If it was intended to make the tour of this basin, it would be necessary to depart from the most southern and nearest point, to the mouth of the Rhone; and advancing eastward, the prolongation of the chain of the Alps would be encountered. This chain covers Aix, Marseilles, Toulon, and Grasse. From the former town, mounting almost perpendicularly to the north, would be found Senez, Digne, Embrun, Barcelonette, and St. Jean-de-Morienne; all built on the Alps. It would be necessary to traverse the lake of Geneva, leaving the high Alps on the right, which form at their base a particular basin, of which the lake of Geneva is the reservoir, and discharge. You would then behold the Alps, confounded with the mountains of St. Cloud, known by the name of Mount Jura, rising above Besançon and Mountbeliard. To the north of the basin of the Rhone, the mountains traverse Lorraine. From Bedford, you would traverse chains of mountains lower than either the Alps or Mount Jura, of which it is, however, an embranchment. This last chain winds to the south, towards Langres, to Dijon, Lyons, Vivarais, Alais, and Nismes, and from Nismes to the Mediterranean sea. There you would find a recent alluvion, formed by the waters of the sea, and which daily increases. Such is the first great basin of France, formed by the Rhone and its confluent rivers.

"This basin is divided by a chain of secondary mountains, into two very strongly contrasted portions. This secondary chain is lower than the Alps.

"The Rhone flows from the east to the west, and then pursuing a right line to the south, forms the above separation in bathing the foot of Mount Jura, that of the mountains of Bugey, and afterwards those of the Lyonois and Vivarais.

"There results, from these two grand divisions, two climates of very different temperature. The right, or highest division, is almost, every where, three or four degrees colder than Lyons. I speak particularly of the plains, because all the lower part of the second basin is completely sheltered from the north winds, from Lyons to the sea.

"The prevailing heat of the first basin does not arise from its proximity to the south; but from the mass and extent of the high mountains which shelter it on all sides; and from the same cause proceeds the difference in its culture and production. All the rivers that traverse the higher division of this basin, have a slow current; they descend upon almost imperceptible slopes, from mountains, where heavy rains fall almost every day. Their overflowings bring down, and deposit in the plains, a fertile mud; a manure that may be compared to that which the Nile leaves upon its banks. From this manure spring the rich meadows of Franche Compté, Burgun-

dy, and Beaujolois; and those abundant fields, where, in traversing these provinces, the eye contemplates the harvest with delight.

"Vines and wine, of high reputation, are often met with in the higher parts of the basin of the Rhone; but the major part of the inhabitants do not attend to the circumstance, that these vines, so renowned, are sheltered by hills and mountains. If you would suppose, for instance, that the chain of mount Afrique, above Dijou, was reduced to a plain, what would become of the fine vineyards of Rochepot and Beaune?—The fact is, that their excellent quality arises from the shelter that defends them, and which augments the necessary heat. The texture of the earth in which they grow decides the taste of these vines.

"The Saone, Dugeon, Ougnon, Doux, and Seille, enliven, enrich, and embellish the higher part of the basin; the cultivated part of the mountains here owes every thing to art, and the unremitted labour that supports it. There are only seen, on every side, naked rocks, sand and gravel. The Rhone, and all the rivers that fall into its bosom, have rapid, precipitous, and impetuous currents; such are the features of the rivers Ain, Isère, Drome, Durance, and Gardou; and thus over all the extent, from Lyons to the sea, you can know, by the mass of sand, what rivers have contributed to swell the main stream. The mud from the Saone is always yellow and fertile; the Rhone exhibits white sand, dry and unmixed with the earth, and extremely quartzose; that of the Isère is brown and schistose; that of the Durane and Drome, dry and arid.

"If you glance your eye over the chains of mountains that traverse the lower division of the basin of the Rhone, from east to west, you will find that, as in the higher division, the temperature of the climate is less influenced by approximation to the fourth, than from the shelter afforded by the mountains. We have already observed, that the common mass of heat is three or four degrees higher at Lyons than at Dole or Besançon. Below Lyons, the temperature varies sensibly in about ten leagues. Lyons is sheltered on the north by the elevated mount D'Or; Vienne, by a chain cut by the Rhone, and re-united to that of the Lyonois; Tournon and Thain, at the foot of, and environed by rocks, have only the Rhone between them. Here the pomegranate begins to be planted in hedges, as divisions between the farms. The chain of Mount Pilate covers this place from the winds of the north. Montelimar is equally sheltered by a very high mountain. On turning from Montelimar, to ascend the Rhone, the olive tree is no more seen; here is its limit: some have escaped the severe winter of 1766, but the mountains and hills, worn down by incessant rains, and beaten by the violent winds, peculiar to this climate, are greatly lowered, and the olive trees, exposed to the violent winds of the north, have perished.*

* We would here entreat the most serious attention of the experimentalist, who intends to introduce, into the southern parts of the United States, vegetables liable to destruction by frost. Timely precaution in choice of position, and often a prudential reservation of woods, would aid very essentially in the laudable attempt to add to the resources of human existence and comfort.

No man of the most common habits of observation, who has resided a number of years in or near the delta of the Mississippi, but will acknowledge

"The chain of St. Esprit, as well as that of Mount Ventoux, in the Comtat d'Avignon, presents a new climate. We ought to regard each of these divisions, and each of these climates, as a particular basin; distinguished respectively by the intensity of the heat, or diversity and quality of their productions.

"These qualities are particularly distinct in the wines. Those of St. Troy, Millery, Charly, near Lyons, Côte Rotie, near Vienne, the Hermitage, at Thain, St. Peret and Cornas, opposite Valence, and Chateau-neuf-du-Pape, have all their particular characters so strongly marked, that they cannot be mistaken; characters that are derived from their shelters, and from the grape plants that are cultivated.

"After having traversed all the lower parts of the great basin of the Rhone, and the rivers that it receives, if you then follow the mountains from chain to chain, you will perceive, that at equal heights, the cultivations and productions are every where the same. The spruce of the Alps of Mount Jura is again found upon Mount Pilate. The pines of the less elevated mountains make almost the *contour* of this great basin. Little or no wheat, much rye, buck-wheat, and potatoes, are the principal objects of culture. Their fruits are tardy in production, but are articles of transportation into the plains, particularly the apple, as well as the different kinds of chestnut, whose taste is excellent.

"The chains of mountains divided and subdivided, and forming thousands of valleys, presenting delicious meadows, whose grasses are fine, short, and aromatic.

"The numerous flocks of cattle, sheep, and goats, consume in summer these fine pastures, and furnish enormous cheeses, known in Franche Comté by the name of Vachelin, and which are made in the same manner as those of Gruyères. Every canton produces cheeses, that have peculiar qualities, but all are excellent, because the pastures are elevated. Observe the general advantage that each part of the basin claims, from its local position.

Basin of the Seine.—"The mountain of the town of Langres forms the point of demarkation of three basins; that of the Rhone, the Meuse, and the Seine; all have their sources to the south and south-east, relatively to their general estuary. The variations in climate, culture, and productions of this basin, are less striking than are those of the basin of the Rhone; because in the former, the chains of mountains are less elevated than in the latter, and also diminishes in height, as they accompany the courses of the rivers which flow from them; and lastly, because in the lower part of the basin they are merely high hills.

"The reason may be easily perceived why, at Laon and Rheims, the inhabitants make good wine, though these two towns are as far north as Rouen and Havre, where the vine does not receive sufficient warmth for the developement of its growth or maturity of its fruit.

the correctness of this advice. The sugar cane, potato, maize, rice, the orange tree, and, indeed, every plant or tree whose juices are decomposable by frost, will afford examples how rapidly climate is influenced by hills, woods, prairies, and the courses of rivers.

" Departing from the chain that covers Autun, and advancing north to Langres, the mountains become very high, and Langres is the most elevated town in the kingdom. Leaving Langres, and continuing north, the chain divides to the right; it joins the mountains of Lorraine, and to the left forms the eastern part of the basin of the Seine. This left branch passes by Chaumont in Bassigny, Joinville, Bar-le-Duc, Rheims, and Rhetel, to Guise, which latter town is the northern point of the basin. The mountain then divides into four embranchments, forming a kind of cross. We have already spoken of one part; the second runs from south to north, and reaches Cambresis; the third directs its course towards Calais; and the fourth, winding westward, is lost at Havre de Grace: it covers Noyn, Beauvais, Rouen, Caudebec, and Paris. Crossing the Seine, at Havre, you would encounter a chain of hills, which, in returning south, would gradually rise as far as Autun, the point from which we set out in our survey of this basin. Point-Audemer, Verneuil, Mortagne, Chartres, Pithiviers, Montargis, Chateau Chinon, and lastly Autun, would be visited in this transit.

" The basin of the Seine ought to be subdivided into two parts, from the embranchment drawn from Laon to Nevers: passing by Epernay, Sezane, Sens, Joigny, and Auxerre, it would be easy, in following this line, to recognise the embranchments. It is from the advantage of these shelters, that these climates produce excellent wine, less spirituous, it may be granted, than those of the higher division of the basin of the Rhone, and these again less generous than those of the lower division of the latter basin. We do not speak here of the delicacy or aroma of these wines, but of the spirit drawn from them by distillation. It ought, however, to be remembered, that the approximation to the south ought to be brought into the calculation; but we have already remembered, when speaking of the basin of the Rhone, the effects from variety in temperature arise less from southern distance than from the local shelters afforded by the mountains.

" In proportion as the shelters are depressed in the lower division of the basin of the Seine, the wines deteriorate in quality; they become flat and weak, as in the environs of Paris, and along the banks of the Seine from Paris to Rouen. In fine, the more the shelter from the north winds sink in elevation, the heat diminishes in its intensity, and the grape often cannot ripen from the early frost. Cider has supplied the place of wine, since the thirteenth century, in Normandy.*

" The apples from which is produced the cider of Normandy, was

* It may be doubted, if known facts are consulted, whether wines and the apple tree will ever flourish in the same place. Good apples are often produced near Natchez, on the hills east of the Mississippi; but though that region is no doubt, of all places, contiguous to the delta of the Mississippi, most suitable to the culture of the apple tree, it is there, notwithstanding the elevation of the land, exposed to a too intense sun, and when its fruit is of good quality, the circumstance is a deviation from the ordinary course of nature.

There are many places on the higher parts of the Mississippi state, where the traveller will find soil and situation, remarkably analogous to the best wine countries of France.

in the first instance transplanted from Spanish Navarre ; they are indigenous in the neighbourhood of Pampeluna ; and if not ingrafted in Normandy, they produce bad cider.*

" The rivers that flow in the basin of, and which contribute to form the Seine, are the Yonne, Ouis, Aure, Oise, Armançon, and the Marne. Let any person examine carefully the banks of these rivers, and he can form an accurate estimate of the alluvial deposit that can be formed from them,* and of the degree of fertility of those deposits. Suppose, for instance, that the basin of the Seine was insulated, from Paris to Rouen, and confined to the Seine, properly so called, the deposits would have been sterile, because the river flows through silicious sand, and *silex is injurious to vegetation*. If any earthy deposits are found, they are due to the Yonne, Oise, and Marne.

" Wine forms the principal object of culture in the higher parts of this basin. Chalk is opposed to the culture of small grain, and there is no comparison between the culture of the latter in the higher and lower part of this basin. The chalk retains too much water, or rather the water cannot penetrate and divide it, to enable the roots of vegetables to penetrate the soil. These provinces are happy in being watered by frequent rain, and not exposed to the common and long droughts experienced in the southern provinces, since, if such was the case, the chalky soil would be entirely unproductive.

Basin of the Loire.—" This basin, like the preceding, has two very distinct parts, the higher and lower. The higher comprehends the mountains of the Limosin, Auvergne, Horez, and Vivarais. This chain presents the same productions as does those of Dauphiny and Franche Comté.

" Buck-wheat, rye, and potatoes, with a little hemp, are the products of those mountains. Though supplied with excellent shelters, the too great elevation will not permit the vine to ripen its fruit ; and except some privileged cantons in very deep valleys, there are no vines.

* If the estuary of any river is scientifically examined, an estimate can at once be made of the general character of the country it waters. All rivers, whose mouths form low, flat, and protruded alluvial depositions, flow through fertile regions, the soil of which is light, and easily detached from its native place of formation. All rivers, on the other hand, whose discharge to their respective seas, are wide bays, flow through rocky or hard barren silicious soil.

Of the former class of rivers, the most remarkable are, in Asia, the Wolga, Ganges, and Burrampooter ; in Africa, the Nile ; in Europe, the Po, and Danube, and in America, the Mississippi, Orinoco, and Amazon. Of the latter, the most prominent examples in Asia are the Euphrates, Ob, and Jenisea ; in Africa there are none of consequence ; in Europe, the Elbe, Weser and Tagus ; in America, the St. Lawrence, almost all the rivers upon the southeastern slope of the United States ; the Mobile, Colorado of the gulf of California, and Rio de la Plate.

There are many shades of resemblance between rivers of these two classes, that approximate them to each other ; but the general principle is not affected. Who ever has gained a correct detailed knowledge of the physiognomy of the region near the mouth of any given river, has gained also a very correct general knowledge of the country from which the river drew its waters.

Too much attention cannot be given to this branch of topographical inquiry, as many false conclusions may be prevented, or obviated, by preserving a rule so simple, and which will scarce ever deceive. It will be seen, when our attention is turned to the eastward of the Mississippi, how general the principle will admit of application to practical experience.

Nature has, however, recompensed the inhabitants with delicious apples.

"The lower part of this basin, sheltered by multiplied hills, offers an infinity of excellent productions. White-wine at Poilly and Charité sur-Loire; red at Blois, and the fruits of Tours and Angers, are abundant and of exquisite flavour.

"From Nevers to Nantes, in following the Loire, the hills are beheld covered with rich vineyards; almost all the stone of this lower basin is calcarious.*

Basin of the Garonne.—"The plain of Bourdeaux, composed of an alluvion formed of sand admixed with the mud of the sea. When there is not a clayey base to this rich mould, the wine is delicious. Such is that of Aubrion, because the water is imbibed with facility, and penetrating the sand, does not produce humidity injurious to the vines.

"Sometimes there are, under the sand, strata of hard feruginous earth; and if precaution is not taken to break them, they produce upon the vine the same effect as argil, by forcing the water to remain stagnant."

This subject could be much dilated, but it is unnecessary. Our intention was to produce some general, but well-founded ideas upon the culture of a vegetable, whose introduction into every country has made a revolution in its rural economy.

The olive is of infinitely more real value than the vine, and deserves more attention than any vegetable, the cereal gramina and sugar-cane excepted. This very precious tree will no doubt become one of the greatest objects of the American farmer in those parts of the United States which lie south of 35° N. lat. The subject is, however, too extensive to permit its insertion in this place. As the olive tree can, we have every reason to believe, be introduced into almost the entire range of the United States, included between the 29th and 35th of N. lat. from the Atlantic ocean to the Chippewan mountains, we have considered it deserving an entire chapter, after the reviews of the states and territories, included in that part of the foregoing range, that lie west of Georgia. To this (chap. iv. of this treatise,) we refer the reader, and will now proceed with the topography of the basin of Mobile.

The valley of the Mobile and its tributary streams has much, not to say, a remarkable resemblance to the basin of the Rhone, and will admit of nearly the same course of production. Though in the same parallel of latitude, St. Stephens on the Tombigbee enjoys a temperature considerably warmer than Natchez. The winters are less severe at the former than at the latter place. The valley of the Alabama, from the junction of the Coosa and Tallapoosa, to the mouth

* There is but little in common with the climate and position of this basin and any part of the United States east of the Mississippi. The concluding observations upon the culture of the vine, deserves particular notice, however, as they appear to be in unison with all the information on the subject contained in the work from which they are extracted; and farther, as they tend to show, that whatever other differences climate or soil may make upon the growth of the vine, a sandy base is every where necessary for the production of good wine.

of Tombigbee, exhibits nearly the same variations of seasons as are experienced at St. Stephens.

The ridge of hills that divide the waters of the Mobile, though not very elevated, yet afford a considerable shelter to the country along the gulf of Mexico. The vine may no doubt be brought to great perfection on land that is now unjustly condemned to irremediable sterility. The dry pine hills, with a southern exposure, will, no doubt, prove by far most advantageous for the culture of the vine, and will yield grapes of far superior quality to those produced on the rich and moist bottoms of the large rivers.

A glance at the various openings to the winds of the north, or the elevations that obstruct their approach, or reduce their violence, that extend themselves from the Atlantic ocean to the Rio Grande del Norte, in tracing the 33° N. lat. will enable the geographer to draw correct conclusions respecting the varieties in the climate of this extensive region.

Calculating from analogy, the air ought to be more temperature, and the seasons more uniform on the borders of the Atlantic ocean, than upon the gulf of Mexico, on the same line of latitude. From recent, though not very decisive data, the facts are consonant to the theory. If sugar-cane is cultivated successfully in the state of Georgia, the induction is well founded, that there is less frost on the shores of the Atlantic ocean than on those of the gulf of Mexico, on the same parallel of latitude. The southeastern part of Georgia is sheltered from the north by the high granitic ridges of the Alleghany, which are covered with an enormous forest of evergreen trees: the south part of Georgia is sheltered by the same mountains, and both places are tempered by their proximity to expanded bodies of water.

In advancing westward from the Atlantic ocean, along the 33° N. lat. Carteret's bank, in South Carolina, will first be passed; the city of Charleston will be left to the south, and the level country watered by Cooper, Edisto, and Camchee rivers, will be passed before encountering the Savannah river. This distance, of upwards of 165 miles, is over a level, and by no means a productive country. West of Savannah, the country is more broken than to the east of that river, but it continues generally a sterile, sandy soil, in which the pine tree most abounds. In reality, from the Oconee to Red river, except upon and very near the streams, the parallel of 33° N. runs through a barren pine forest.

The 33° N. lat. is, in North America, what the parallel of 45° is in Europe, a line of demarkation between different vegetables. These two parallels are in the respective quarters distinguished by the same productions, and exhibit very nearly the same temperature. The reason why the western part of Europe enjoys in 45° a temperature found in America in lat. 33° has never yet been satisfactorily explained; nor is a philosophical solution of it of much consequence; but it is of the utmost utility to the American emigrant to understand correctly the varieties in the soil and climate of those parts of Europe from whence new plants or new branches of husbandry are to be imported into his own country.

The Mobile is the Rhone of North America. The valley of this river is sheltered on all sides by considerable elevations, and by thick forests, except towards the south, where it is open to the warm winds from the tropics. A ridge of hills leaves the northwestern parts of Georgia, and following a course nearly similar to that of Tennessee river, divides the waters that flow into that stream from those that flow into the confluent waters of the Mobile. This ridge, though not very high, is clothed with a thick forest, and forms a line of demarkation between two climates, as well as a dividing line separating different rivers.

Nearly upon the line between Georgia and Alabama, this ridge divides itself; one branch, as has been remarked, winding parallel to the Tennessee river, crosses the Ohio a short distance below the former river. The second branch takes a direction a little south of southwest, and terminates near the junction of Coosa and Tallapoosa. The fall in Coosa, above Fort Jackson, is, perhaps, a continuation of this last ridge; if so, it is merely broken through by the Coosa, and continues nearly the mouth of that river, and gradually sinks into the low lands near Mobile bay.

Leaving the northwest angle of South Carolina, and intersecting Georgia in nearly a southwest direction, a branch of the Aleghany mountains directs its course between the Chatahooche and Mobile rivers, and gradually lowering, as it advances to the southwest, finally terminates in the bluffs of the Mobile bay, near the town of Blakely.

Near the northeast angle of the state of Mississippi, a ridge diverges from the one already described, as dividing the waters of Tennessee and Mobile rivers. This diverging ridge pursues nearly a south course, crosses two degrees of latitude, dividing the waters of the Tombigbee from those of Yazoo and Big-black; then turns a little east, separates the streams that flow into the Pascagoula river, and is terminated by the high banks upon which Mobile town is built.

There is, in the basin of the Mobile, still another distinctive ridge, lying between the waters of the Cahaba and those of the Black-warrior rivers, and which, below the respective mouths of these latter streams, descends to the southward, and forms the apex of the Peninsula between the Tombigbee and Alabama rivers, and is imperceptibly merged into the low lands near their junction.

Almost on the 33° N. lat. and near the sources of the Big-black, Pearl and Pascagoula rivers, the chain of hills, west of the Tombigbee, sends out two embranchments; one winds southwardly, divides the waters of the Pearl and Pascagoula, slowly depresses as it approaches the sea-coast, and ends in high banks near the bay of St. Louis. The second pursues a southeast course, separates the waters that flow into the Mississippi river from those that flow into lakes Maupas, Pontchartrain, and Borgne, and terminates abruptly in high hills, called Loftus' heights, on the east bank of the Mississippi, about eighteen miles above the mouth of Red river.

There are hills of more or less elevation between all the minor water courses in the Mobile basin, but the foregoing are the most important, and the only claims that have a sensible influence over the

Climate. It will be seen that the valley or basin of the Mobile is in form of a triangle; the base of which lies parallel to the Tennessee river. The surface of this valley is about 40,000 square miles—25,600,000 American statute acres.

The soil is extremely varied. The far greatest part of the surface is barren, having pine as its principal growth. The productive soil is again subdivided into two portions; the first and most valuable is the alluvion upon the rivers; the second is composed of the slopes of hills, and usually in the country called hammock land; the soil of this latter is generally mixed sand and clay,—timber, pine, oak, hickory, sweet gum, and dog-wood.

If ever extensive vineyards are established in the United States, it will be upon those dry sandy slopes. The position, exposure, and description of soil, corresponds almost exactly with the places where, according to the French authors, the finest vineyards of Europe are situated.

There are many places, also, where small grain can be cultivated, and where good mills can be erected. This outline will, no doubt, prevail towards the sources of the streams to where the transportation flour would be difficult and extensive.

It will, however, in the first instance, and for a considerable time to come, be upon the rich alluvion that the settlements will be made. It is here that new farms, towns and villages will rise with rapidity. Cotton, maize, potatoes, and other staples and necessities of human life, will precede the vine. Men will, in the first instance, cultivate that product that with certainty will yield speedy emolument.

The whole country included in the basin of the Mobile apparently rests upon secondary limestone. This fossil, in many places, forms precipices along the banks of the rivers, and as far as correct information has been received, is the rock over which the various waters are precipitated in the falls of rivers.

There are many parts, particularly the banks of the Alabama, Cohaba, Coosa, and Tallapoosa, where the olive will find a congenial soil and situation.

The following is a list of the most common timber trees found in the basin of the Mobile, and indeed on all the waters from the Atlantic ocean to the Mississippi, in the same parallel of latitude.

<i>Pinus rigida</i> ,	Pitch pine,*
<i>Pinus taeda</i> ,	Loblolly, or water pine,†
<i>Quercus tinctoria</i> ,	Black oak,
<i>Quercus rubra</i> ,	Red oak,
<i>Quercus virens</i> ,	Live oak; only near the sea,
<i>Quercus ferruginea</i> ,	Black jack,
<i>Quercus alba</i> ,	White oak,

* This tree forms far above one half of the entire mass of the forests. It occupies exclusively immense tracts, and mingles with other trees in every part of the country. It is only wanting in the very richest alluvial soil, or in the lowest swamps.

† This tree is less frequent than pitch pine, even in low grounds, where the two trees are found growing together.

<i>Quercus falcata,</i>	Spanish oak,
<i>Juglans squamosa,</i>	Shell-bark hickory,
<i>Juglans laciniata,</i>	Black hickory,
<i>Juglans nigra,</i>	Black walnut, scarce,
<i>Acer rubrum,</i>	Red maple,
<i>Acer nigrum,</i>	Black sugar maple, rare,
<i>Acer negundo,</i>	Box elder, on the streams,
<i>Cupressus disticha,</i>	Cypress,
<i>Carpinus ostrya,</i>	Iron wood,
<i>Carpinus Americana,</i>	Horn beam,
<i>Castanea pumila,</i>	Chincapin,
<i>Cerasus virginiana,</i>	Wild cherry,*
<i>Cornus florida,</i>	Dogwood, extremely abundant.
<i>Diospiros virginiana,</i>	Persimon,
<i>Fagus sylvestris,</i>	Beach,
<i>Fraxinus tomentosa,</i>	Common ash,
<i>Gleditsia triacanthos,</i>	Honey locust, rare,
<i>Juniperus virginiana,</i>	Red cedar,
<i>Laurus sassafras,</i>	Sassafras,
<i>Liquid amber styraciflua,</i>	Sweet gum,
<i>Liriodendron tulipifera,</i>	Poplar,†
<i>Magnolia grandiflora,</i>	Large laurel,
<i>Nyssa Sylvatica,</i>	Black gum,
<i>Nyssa aquatica,</i>	Tupeloo,
<i>Platanus occidentalis,</i>	Sycamore,
<i>Tilia pubescens,</i>	Linden, or lime tree,
<i>Ulmus rubra,</i>	Red elm,
<i>Ulmus Americana,</i>	Mucilaginous elm,
<i>Ulmus aquatica,</i>	Water elm.

There are many trees not enumerated in this list, that may be found in the forests of Mobile, but these are the most prevalent, and in their uses the most important.

Cupressus disticha (cypress) is every where, in the southern and southwestern parts of the United States, selected for buildings, fences, and for every use to which its wood can be applied. Its timber is easily wrought. It is also one of those kinds of trees whose wood does not harden by being seasoned; it is extremely durable, and shrinks or swells by change of weather less than the wood of any other known tree.

* The wild cherry has received, in our books of natural history, the absurd name of *cerasus virginiana*, in place of the *prunus Americana*, which latter ought to have prevailed. There are but a few species of trees in the United States found covering a more extended surface than the wild cherry; its timber is very inferior to mahogany in beauty and durability. It abounds along the bluffs east of the Mississippi; it is found in all second rate lands, on all the waters that flow into the gulf of Mexico, but appears to have displayed the full development of its size only in Opelousas and the adjacent country. The texture of the wood of the wild cherry gains in colour and solidity in advancing to the southward, but the fruit rather deteriorates.

† This elegant and majestic tree does not abound in the basin of Mobile, but is extremely plentiful, and grows to an immense size upon the hills near Mississippi, and upon some of the waters of West Florida and Opelousas.





The cypress is used for ship-building, and it has been said that, except nails, cables and anchors, a whole ship of any size could be formed from the cypress timber. If it is not the largest tree in girth, it is certainly the most elevated in North America. I have myself seen cypress trees more than a foot in diameter, upwards of 100 feet above the ground.

The live oak does not abound in any place, but is totally unknown in the basin of the Mobile above 31° N. lat. The existence of this tree as high as $30^{\circ} 50'$ N. lat. on Mobile bay, is a proof of the greater temperature of this region, than that near or west of the Mississippi. It will be seen, in the sequel of this work, that $30^{\circ} 20'$ is about the northern limit of the live oak, in the vicinity of the delta of the Mississippi.

The pitch pine covers more than two-thirds of the country. The soil upon which this tree vegetates has been considered as condemned to irreclaimable sterility. There are many reasons to justify doubts, of the correctness of these conclusions. In the pine forests the earth is every where covered with succulent grass, that affords excellent and abundant range for cattle. There are also found growing spontaneously several species of the papilionaceous flowering vegetables.

Whilst the fertile alluvion of the navigable rivers remains unlocated, we can hardly hope that the lands included in the pine forests will receive a fair trial of their capability of improvement; but that this extensive species of soil has been too hastily condemned, we have many sound reasons to believe.

Whether an attention to the production of wine in the United States is desirable or politic at this time, cannot be easily determined; but that the vine, if ever cultivated on a large scale in the United States, must be planted upon the warm sandy slopes of pine hills, we hazard nothing in assuming as correct. From the picture given in this treatise of the wine districts of other countries, any person who had ever seen the hills of Amite, Pearl, Poscagoula, Tombigbee and Alabama, would at once perceive the analogy.

Those pine tracts are also the seats of pure air, pure water and health. The asperities of the soil are more than compensated by the absence of bilious and chronic diseases. If the inhabitant earns his bread with the sweat of his brow, he can eat and digest it with a vigorous stomach.

Of the towns that have been begun in the valley of the Mobile, the most important are, Mobile, Blakely, Fort St. Stephens, Fort Claiborne, and Alabama.

MOBILE stands upon the west side of the bay of that name, in $30^{\circ} 40'$ N. lat. This town, though amongst the first established in Louisiana by the French, is yet of but little consequence. It is built upon a high bank of the bay; the site is dry and commanding, but the approach of the harbour, for vessels drawing more than eight feet water, is difficult and circuitous. The annexed plan of the bay will exhibit its position more clearly than could be done by any verbal description. Vessels can be brought very near the shore, and the har-

bour is completely sheltered from the storms, or sudden attack of an enemy by water.

The country in its rear is unsettled pine woods. There are no extensive settlements nearer than Washington or Baldwin counties, above the 31° N. lat.

Many very serious impediments oppose themselves to the advance of Mobile, but the most effectual is the rise of a rival town in a more convenient situation for commercial transactions.

BLAKELY stands upon the east side of Mobile bay, in $30^{\circ} 43'$ N. lat. This town has been only established a little more than a year. It has some pre-eminent advantages over Mobile; one of which is, that the same wind that enables a vessel to enter Mobile bay, will carry her to the wharfs of Blakely, which is not the case respecting Mobile; another is, an open road to the rapidly improving country on the Alabama river.

Blakely, it is most likely, will become the mart of Mobile river; there is a vigorous rivalry between the two towns at present, but the obvious superiority of the position of Blakely will probably be decisive in its favour.

FORT ST. STEPHENS is established on the west bank of Tombigbee, at N. lat. $31^{\circ} 33'$. This town stands at the head of schooner navigation, and is in a state of rapid improvement. The amount of the commercial business, already done at this town, exceeds \$500,000 annually. In its vicinity is the most wealthy and best populated country on the waters of the Mobile. Baldwin, Washington, and Clarke counties, have all received great accessions of population within three years past.

Property continually rises in value, notwithstanding the interminable quantity of public land opened for settlement. The advantage of occupying the point between boat and ship navigation confers great importance on this place. Whatever towns may arise, either above or below, yet this place must maintain its relative rank.

It is, by act of congress, the seat of government for Alabama territory, until otherwise directed by the legislature thereof. It has been found, in a great number of instances in the United States, that nothing but commercial facility can augment, to any considerable extent, the wealth or inhabitants of towns; and that their being selected for the seats of legislatures, or courts of justice, gives but trivial comparative advantage. It is, therefore, of very little consequence to the people of St. Stephens, whether or not it remains the seat of government.

FORT CLAIBORNE, on Alabama river, occupies the same relative position on that stream, that Fort St. Stephens does on Tombigbee. The former town has entirely risen since the end of the last war between the United States and Great Britain. Like all other places in the valley of Mobile, it is in a state of prosperous advance. The town of Fort Claiborne is also at the head of schooner navigation; of course the chances of its permanency rest upon the same principles of calculation which we have applied to Fort St. Stephens.

It would be difficult to state the number of houses or people in any

of these new towns. In reality, the numbers change so rapidly, that no estimate can remain one year correct. It would be useless to attempt any precise enumeration of the component parts of a mass so incessantly accumulating.

The country in the vicinity of the junction of the Tombigbee and Alabama is in some respects most admirably situated to become a pleasant and profitable residence. It will probably, at no very distant time, be the centre of a great thoroughfare between New Orleans and the southern states upon the Atlantic. Should the vine and olive be successfully cultivated, and there is but little reason to doubt a prosperous issue to the attempt to introduce those useful plants, then will the valley of the Mobile become the American Italy: there will the declining constitutions, sinking under the severity of northern winters, find warmth, health and mental enjoyment.

The following list of roads will show the distances from St. Stephens to the respective places around that town.

No. 3.

St. Stephens to New Orleans by Madisonville.

	Miles.
Fort Stoddert	40 40
Pascagoula river	65 105
Greene C. H.	20 125
Pearl river	45 170
C. H. parish of St. Tammany in the state of Louisiana	25 195
Madisonville	30 225
Fort St. John (over lake Pontchartrain)	22 247
New Orleans	5 252

No. 4.

St. Stephens to Natchez.

Sintabogue river	12 12
Eastern branch of Pascagoula	21 33
Winchester	11 44
Monticello	105 149
Natchez	90 239

No. 5.

Milledgeville in Georgia.

Fort Claiborne	25 25
Hurricane Spring	43 68
Fort Decatur on Tallapoosa river	56 124
Point Comfort	12 136
Chatahoocy	30 166
Fort Lawrence	45 211
Fort Hawkins	50 261
Milledgeville	45 306

No. 6.

Nashville in Tennessee by Huntsville.

Fort Claiborne	25 25
Fort Jackson	90 115
Huntsville	200 315
Tennessee line	14 329

	<i>Miles.</i>
Fayetteville	12 341
Shelbyville	31 372
Nashville	35 407

It will be seen, from the above relative distances, how nearly central is the position of Fort St. Stephens, when compared with the most remarkable places in the surrounding states.

The road from St. Stephens to New Orleans can be travelled at all seasons of the year, and this route is only embarrassed by having lake Pontchartrain to pass. There is no considerable difficulty, however, in passing that lake, as packet schooners daily ply from New Orleans to Madisonville.

In every other direction from Fort St. Stephens the roads lead over high dry countries, and admit of being passed, without extraordinary difficulty, at all seasons.

Persons intending to visit the valley of the Mobile, ought to depart from their place of outset, so as to arrive in the country in November or December. The winter is the most agreeable and safest season for new-comers in any part of the United States south of 35° N. lat.

Persons removing into this country with families ought never to neglect this precaution; the spring is the ordinary time of arrival, and it is in every respect the very worst part of the year that can be chosen. The rapid change from the low temperature of a northern to a much more southern residence, is an essay of sufficient violence for the human constitution at any time; but when, to this severe change, is added that of a diurnal increase of heat, it ought not to excite surprise that so many lives sink under the trial. Mere heat, unless extremely violent, is not destructive to animal life. It has been proved that the human species will enjoy perfect health when exposed to a heat of upwards of 90° of Fahrenheit's thermometer, provided there are no animal or vegetable substances near, liable to be decomposed by the action of the heat. The alluvial banks of large rivers are no otherwise the laboratories of disease, than by means of the abundance of decaying matter, particularly that of vegetables. Living near swamps or low ground, in summer, exposes one to disease in all countries, but that liability to contract sickness will be increased extremely when a healthy person, leaving a cool and pure atmosphere, is at once transported into a warm climate and near large bodies of fresh water.

There are many parts of the valley of the Mobile, where little danger from stagnation need be apprehended; but those healthy parts will be the last settled. The first establishments will always be made upon the rich margins of the streams, which are the most fertile, though least healthy parts of the country.

There is another and very serious inconvenience attending an entrance into any new settlements in spring, and that is the price of provision. Autumn is the season of cheapness and plenty.

So much, however, depends upon the private arrangements of almost all men, that they are seldom sufficiently masters of their own

movements to determine, according to their wishes, their arrival in any given place at any particular season.

No. 7.

Route from New Orleans to Natchez, and post of Arkansaw by the Mississippi and Arkansaw rivers.

	Miles.
M. Carty's	6
Sauvé's	5
Kenner's	3
Detrehans	5
Red church, German coast	1
Bonnet Quaré point	14
Bonnet Quaré church, parish of St. Charles	5
Fortin's	14
Cantrel's two churches, parish of St. John Baptiste	12
Bringier's Acadian coast, parish of St. James	8
General Hampton's, Old Houmas	4
Donnaldsonville, efflux of Lafourche, parish of Ascension	6
Church of St. Gabriel, (Manchac)	26
Efflux of Plaquemine	10
Efflux of Iberville or Bayou Manchac	8
Baton Rouge	13
General Wikoff's	8
Patons, Lily Islands	10
Mouth of Thomson's creek	8
Mouth of Bayou Sarah, St. Francisville	6
Point Coupée church	1
Mouth of Bayou Tunica, Raccourci bend	31
Island's Three Sisters	28
Efflux of Atchafalaya	9
Mouth of Red river	3
Fort Adams, Loftus' heights	18
Mouth of Buffalo	2
Mouth of Homschitto	9
White cliffs, mouth of St. Catherine creek	40
NATCHEZ	11
Mouth of Shilling's Bayou	5
Mouth of Fairchild's creek, lower end of Fairchild's islands	9
Efflux of Bayou L'Argent	2
Upper end of Fairchild's islands	3
Mouth of Cole's creek	7
Petite gulf	13
Evan's, mouth of Bayou Pierre	5
Grand gulf	11
Mouth of Big-black river	1
Lower extremity of Balmyra bend	13
Upper ditto ditto	20
Warren, in Warren county	8
Walnut hills	10
Yazoo, mouth	14

Entrance into lake Providence, and to lower trace from the

settlements on Ouachitta	41	504
Upper trace from Ouachitta	37	541
Stack island	2	543
To the 33° N. lat. north line of the state of Louisiana	5	548
Mouth of Arkansas	10	560
Post of Arkansas	64	714

At this time two or three steam-boats, and a great number of barges, are in active operation between Natchez and New Orleans. The distance is commonly estimated, in round numbers, at three hundred miles, but exceeds that distance twenty-two miles, as found by actual measurement. The following will exhibit the great difference in distance between New Orleans and Natchez, by the respective land or river routes :

No. 8.

From New Orleans to Natchez, by lake Pontchartrain, Madisonville, and thence by land :—

	Miles.
St. John's suburb, (Fauburg)	2
Fort. St. John's, mouth of Bayou St. John	4
Mouth of Chifuncté	20
Madisonville	3
Cross Tangipao	15
ditto Pontchatoola creek	9
Springfield, on Notalbany creek	5
Court-house, St. Helena, bridge over the Tickfoha river	10
Spiller's	15
Cross Amite river	14
The 31° N. lat.	4
Homochitto river	35
Second creek	6
St. Catherine creek	10
Natchez	4

From twelve to sixteen days are usually consumed in ascending from New Orleans to Natchez, and about twenty days from Natchez to the post of Arkansas. Steam-boats, by stemming the current at the rate of four miles an hour, and going in motion twelve hours per day, will perform the same voyage in much less than half the time.

In countries where wood abounds, such as the banks of the Mississippi, and where the streams are rapid, steam boats are an invaluable acquisition to the inhabitants. It is only to those who have had practical experience, that the painful, laborious, and tedious operation of ascending the Mississippi with barges need be depicted. It is a matter of great surprise, however, to behold the boatmen employed in this severe labour sitting on their benches, exposed to the most scorching sun, often naked from the waist up; and being thus exposed for weeks together, without any serious injury to their health.

The sickness so prevalent amongst American boatmen, has been mostly ascribed to intemperance; that circumstance does, no doubt, superinduce disease but more destructive, and to which the American traders, boatmen, and often families, are too frequently exposed,

when upon the Mississippi, and adjacent streams, in spring and summer, is the loss of rest from the sting of the musquito.

This is an evil easily remedied, and to which those persons who have been long enough in the country to adopt the prudent precautions of the inhabitants, are relieved. A musquito curtain, made from the cheapest materials, is part of the equipage of every one who travels either by land or water, in any part of the Mississippi or Mobile country, from April to November.

It has been thought, but very erroneously, that the high pine tracts were exempt from the musquito in summer. The writer can aver, that from the highest hills of the Tombigbee, to those on the Sabine river, in all parts below 33° N. lat. in ten summers to which he was exposed, there was not one season that the musquitoes were not sufficiently abundant to prevent the possibility of comfortable sleep, during the months of May, June, July, August, and September. In the month of July, 1812, the author travelled from Fort Stoddert to New Orleans by land, to the mouth of Pascagoula, and found the musquito in excessive abundance, upon the dry sandy hills of Dog river.

The inhabitants observed, that the circumstance was extraordinary, and their information may have been correct, but every person who visits the country in summer, would do well to provide against such a contingency. As to families, the provision of musquito curtains is absolutely indispensable.

The general mode of making these curtains for beds, is in this manner. A tester is generally made of thick muslin, the length and breadth of the bed, to which is attached a curtain, about four or five feet high, without openings at the sides. This curtain, thus made, and suspended so as to admit its being folded beneath the bed clothes, effectually excludes these very troublesome insects.

This species of curtain is universal in the houses of the inhabitants of the states of Mississippi, Louisiana, and Alabama territory. They are made from the coarsest to the finest materials, and are, in houses of the higher classes, often elegant.

The boatmen generally have small mattresses, only wide enough to admit one person: the curtain is formed of the length and width of the mattress. When intending to provide for his lodging, the boatman attaches his curtain to little posts put into the ground, to branches of trees, bushes, or, indeed, whatever else may be found to suit his mattress, is stretched beneath, and in this retreat, he reposes safe from the musquito, and sheltered from the night dews.

The author was one who learned, from dear bought experience, this useful addition to his travelling equipments. During a residence of nearly sixteen years, in the region near and in the delta of the Mississippi, the only indisposition of any great consequence he ever experienced, was in first descending the Mississippi to Natchez; and his sickness was then occasioned by the pain and venom of the sting of the musquito.

When performing the surveys for his map of Louisiana, he was exposed to every vicissitude of season, and to every change of place,

that the country could present, and without observing any stated regimen, be enjoyed almost uninterrupted health.

This subject has been mentioned in detail, from the certainty of its importance, and from a conviction, that those who will most need the precaution, are those to whom the necessity of using it is unknown.

Men from the northern, and many parts of the middle states, and, indeed, from some of the hilly and mountainous parts of the states of Virginia, the two Carolinas, and Georgia, cannot be made to dread an enemy whose attacks they never felt. The robust, healthy, full habits, of most of the young men of all those places, are precisely the food upon which the bilious fevers of the south are supported. And of all the various causes that sap and destroy the human frame, want of rest, and exposure to night dews, are the most dangerous and destructive.

The rude mattress and check curtain, with thick Russia sheeting testers, used by the Louisiana boatmen, would save thousands of lives. The whole materials of a bed, constructed in this manner, would not exceed, and possibly not amount to twenty dollars. They are made of all sizes, and of all kinds of materials, from the coarsest to the finest; are of every kind of workmanship, from the rudest to the most elegant, and are exposed for sale in the shops of New Orleans, and every other town, in the places where they are needed.

Any person from the northern states, intending to remove to, or visit any part of Louisiana, Mississippi, or Texas, below 33° N. lat. would find it for his benefit to go to New Orleans, or Mobile by sea, and to arrive in those cities as late as November. There is no impediment, arising from winter, in visiting any part of the country. Heavy rains seldom fall before January, and often not so early in the season. The whole country can be examined with safety and comfort, during November, December, January, February, and March. The sickly season does not commence before August; June is the most healthy, and September the most sickly month.

There is, indeed, no season known above 40° N. lat. answering to the winter of Louisiana, nor is there any so pleasant. It is, however, the season in which fewest persons visit the country. The far greatest number descend the Mississippi in spring, and return in summer, in order to escape the dangers of autumn.

Traders, merchants, boatmen, and sailors, may, from the nature of their respective employments, be in a great degree forced to pursue this routine; but persons intending to settle, can be seldom under such necessity, and are less excusable in exposing themselves and families to useless risk.

The ordinary expenses of travelling do not greatly vary, in different parts of the United States, in a given distance; but there is a great and essential difference in time. Where steam-boats, good and convenient ferries, and stages, are established, the rate at which a traveller can advance is much accelerated, but his expenses are in proportion to the conveniences with which he is provided; and though he can proceed on his way with more celerity, he cannot pass

from place to place, with much, if any less money, than by the old fashion, of riding a good horse.

Except by water, there are no public conveniences yet established in the Mississippi or Mobile countries, for the convenience of travellers; they are obliged to provide themselves the means of transportation. Horses, of all prices, are constantly to be procured in New Orleans and Natchez. A medium price may be about eighty dollars.

A stage was some years past established from New Orleans to Baton Rouge, but discontinued, from want of sufficient encouragement. Most persons returning from New Orleans to the western and northern states, cross lake Pontchartrain to Madisonville, and thence by Natchez. A new road is now opening from Nashville to Madisonville, which will obviate the necessity of passing by Natchez, and also save eighty or an hundred miles travelling. Nearly the whole of this road will be over high, dry land. The distance upon this new route, from New Orleans to Nashville, will be about 480; by Natchez, it is nearly 600 miles.

CHAPTER II.

THE means and necessary routes to reach any part of Louisiana, west of the Mississippi river, or of the province of Texas, Provincias, Internas, (Internal Provinces,) or the viceroyalty of Mexico, are but very imperfectly known in the United States. We will give, in detail, the various routes, by land and water, from New Orleans to the respective places west of the Mississippi river, before entering upon the various other topics respecting the countries, or their productions.

No. 9.

Road from New Orleans to Mexico, by land.

	<i>Miles.</i>
To Donaldville efflux of Lafourche. (See No. 7.)	81
Canal to lake Verret	20 101
Lake Verret	7 188
Over lake Verret	3 108
Lake Palourde	11 122
West end of lake Palourde	11 133
Grassy lake	3 136
Atchafalaya river	4 140
Mouth of Teche river	2 142
Rentrop's ferry	1 143
Court-house, parish of St. Mary's	21 164
Sorrel's	17 181
New Iberia	19 200
St. Martinville, parish of St. Martin	9 209
Bridge over Bayou Fusilier	20 229
OPELOUSAS' church, parish of St. Landré	13 242
Fontenot's	12 254
Hanchet's	7 261
M'Daniel's	3 264
Pine Prairie	8 272
Bayou Crocodile	9 281
Bayou Cyprière Mort	32 313
Terre Blanche	12 325
Bayou Conchatta	15 340
NATCHITOCHEs	16 356
Arroyo Hondo	5 361
Adayes	4 365
Bayou Piedra	9 374
Head of Bayou le Nan	6 380
Sabine river	21 401

	<i>Miles.</i>
Bayou Patron	7 408
Chichi's on Bayou Baregas	4 412
Head of the Ayeish river	5 417
Atoyaque river	4 421
Attascocito river	5 426
Bayou del Cariso	6 432
NACOGDOCHES	5 437
Angeline river	2 439
Trinity river	33 472
Brasos à Dios river	50 522
Colorado (of the) gulf of Mexico	70 592
St. Mark's river	70 662
Rio Guadaloupe	32 694
ST. ANTONIO DE BEHAR	50 744
Rio Nueces	90 834
Rio Grande del Norte	100 934
Monterey in New Leon	120 1054
Mine of Catorce	160 1214
Sta. Maria de Charcas	65 1279
San Louis Potosi	70 1349
Fietaro	100 1449
Tula, enter the valley of Tenochtitlan	60 1509
Huehuetoca, head of Tampico river	20 1529
MEXICO,	20 1549

No. 10.

Road from New Orleans to Hotsprings on Ouachitta, by Opelousas and Natchitoches.

	<i>Miles.</i>
Natchitoches. (See No. 9.)	356
Grand Ecor	4 360
Campé	7 367
Tulins Vaucherie	26 393
White-oak creek, Bayou Chêne Blanch	132 525
Little Missouri, Prairie D'Han	12 537
Terre Noir creek	16 553
Fourche au Cado	20 573
Ouachitta river	24 597
Hot springs	9 606

No. 11.

From New Orleans to Hot springs on Ouachitta, by Natchez and Fort Miro.

	<i>Miles.</i>
Natchez. (See No. 8.)	156
Concordia, west bank of Mississippi	1 157
Bayou Crocodile	15 172
Black river	23 194
Bushly creek	11 206
Bayou Calumet	20 226
Prairie de Côte	4 239

	<i>Miles.</i>
Ouachitta river	7 237
Prairie du Lait	3 240
Fort Miro	36 276
Bayou Derbane	14 290
Little Missouri	120 410
Bayou Terre Noir	9 419
Fourche au Cado	10 429
Ouachitta river	20 449
Hot springs	9 458

No. 12.

New Orleans to the Hot springs by water.

	<i>Miles</i>
Mouth of Red river. (See No. 7.)	242
Mouth of lake Long	8 242
Cut off from Mississippi	3 253
Mouth of Bayou Crocodile	12 265
Mouth of Black river	6 271
Mouth of Ocatahoola	50 320
Junction of Ouachitta and Tensaw rivers, head of Black river	1 321
Prairie de Villemont	9 330
Efflux of Bayou Bushly	5 335
Court-house, parish of Ocatahoola, first pine hills, west bank of Ouachitta river	1 336
Mouth of Bayou Louis	2 338
West extremity of Sicily island, first pine hill, east bank	5 343
First rapid in Ouachitta	1 344
Mouth of the Beuf river from the east	2 344
Bayou Calumet	20 366
Prairie du Lait	15 381
Prairie du Mane	6 387
Ecor a Matelot	3 396
Prairie de Chicot	2 392
Bayou de la Belle Chêniere	6 398
Prairie de Bois	10 408
Bayou de la Machoire a Tore	3 411
Bayou Chêniere a Tondre	5 416
FORT MIRO 32° 32' N. lat.	8 424
Mouth of Bayou Siard	3 427
Mouth of Bayou Derbane	3 430
Mouth of Bayou Loutre	12 442
Mouth of the Bartholemy river	3 445
Upper extremity of Bastrop's grant	20 473
Trois Batures (three sand bars,) 33° N. lat. northern limit of the state of Louisiana	1 474
Mouth of the Saline river	1 486
Beginning of overflowen banks	10 496
Upper part of incultivated country	70 566
Little Missouri river	5 571
Fourche au Cado	30 601

EMIGRANT'S GUIDE.

47

	<i>Miles.</i>
Mouth of Hot spring creek	35 636
Hot springs	9 645

No. 13.

From New Orleans to Natchitoches by water.

	<i>Miles.</i>
Mouth of Black river. (See No. 7.)	271
Entrance of Bayou Long	14 285
Bayou Saline	15 300
Avoyelles landing	6 306
Ecor a Chêne	16 322
Outlet to Bayou le Mourir	7 329
ALEXANDRIA, parish of Rapides	15 344
Rapids of Red river	0 344½
Hietan Bayou	3 347
Bayou Rapide	16 363
Gilliards	3 366
Mouth of Rigolet de Bon Dieu	4 370
Narcissus Prudhommes	5 375
Monets	3 383
Mouth of Bayou Pierre	3 383
Metoyé	4 387
Louis Derbane, mouth of Bayou Cochatta	3 389
Mouth of Riviere aux Cannes	4 393
Prudhommes	4 397
Pajillets	6 403
Natchitoches	4 407½

No. 14.

New Orleans to Opelousas, by water.

	<i>Miles.</i>
Efflux of Bayou Plaquemine. (See No. 7.)	117
Blakes	6 23
Mouth of Plaquemine into Atchafalaya	9 32
Outlet into lake Chetimachos	11 43
Outlet of lower Tensaw	3 46
Cow-Island lake	3 49
Lower extremity of Cow-Island	2 51
Upper end of Cow-Island	5 56
Lower raft	25 81
Mouth of Courtableau river	1 82
Mouth of Bayou Bigras	5 87
Efflux of Bayou Ferdoche	1 88
Efflux of Bayou Fusilier	7 95
Bayou Derbane	1 96
Barré's first Prairie and settlement	9 205
Wickoff's Prairie north, and Alabama Prairie south	3 208
Mouth of Bayou Wauksha	3 211
Bayou Carron	2 213
Opelousas landing	2 215
Opelousas town	5 220

No. 15.

From New Orleans to New Iberia and St. Martinsville by water.

	Miles.
Entrance of Plaquemine into the Atchafalayaquemine river.	
(See No. 14.)	132
Outlet into lake Chetimaches	11 143
Lake Chetimaches	5 148
Fausse Point landing	16 164
Neville de Clouet's	2 166
St. Martinsville	10 176
New Iberia	9 185

No. 16.

New Orleans to New Iberia and St. Martinsville, by the Atchafalaya and Teche rivers.

	Miles.
Mouth of Plaquemine. (See No. 7 & 14.)	182
Bayou into lake Natchez	10 142
Lake Natchez	2 144
Re-enter Atchafalaya	10 154
Lake Chetimaches	21 175
Mouth of Teche	5 180
Renthrop's	1 181
Outlet to lake Chetimaches	10 191
Court-house of parish of St. Mary's	15 206
Smith's	13 219
Hardin's	10 229
Sorrel's	14 243
Olivier's	13 266
New Iberia	6 182
Madame St. Maur's	26 308
St. Martinsville	6 314

No. 17.

From New Orleans to Fort Miro, by Natchez and lake Providence.

	Miles.
Natchez. (See No. 8.)	156
Fairchild's creek	15 171
Villa Gayosa	6 176
Huntston	9 186
Grindstone ford	12 198
Gibson's port	9 107
Big-black river	10 117
Warren	12 129
Walnut hills	14 143
Yazoo river	7 150
Providence lake, west side of Mississippi	30 181
Efflux of Tensaw river from Providence lake	10 190
Maçon river	12 202
Bœuf river	20 222
Bayou Bon Idée	4 236
Prairie Jefferson	2 228
Bayou Bœuf	7 235
Fort Miro	22 157

No. 18.

From New Orleans to Fort Miro by Opelousas, Alexandria, and Ocatahoola.

	<i>Miles.</i>
Pine Prairie in Opelousas. (See No. 9.)	272
Bayou Crocodile	10 283
Mulhollan's	12 294
Ferry over Bayou Bœuf	2 296
Alexandria	15 311
Bayou Flaggon	11 322
Big creek	6 328
Ocatahoola, or Little river	3 331
Bushly creek	28 359
Bayou Calumet	15 374
Prairie du Côte	3 377
Ouchitta river	7 384
Prairie du Lait	2 386
Fort Miro	36 422

No. 19.

From Natchez to Natchitoches, by Alexandria.

	<i>Miles.</i>
Bushly. (See No. 11.)	50
Ocatahoola prairie	3 53
Hemphill's creek	8 61
Little, or Ocatahoola river	22 83
ALEXANDRIA	21 104
Welsh's saw mill	1 115
Gilliard's	14 129
Narcissus Prudhommes	8 137
Madame Monet's	5 142
Bayou Pierre	3 145
Bayou Derbane	8 153
Old Red river	5 158
Natchitoches	12 170

The list of roads given in this treatise, embraces many routes that have never before been published; and as new stations are daily forming, some important places are no doubt omitted; but the general distance will in most instances be found correct. The nature of the soil over which these various roads traverse, will be noticed in the sequel.

The country west of the delta of the Mississippi, offers an infinity of very interesting views to the traveller and emigrant. Only a few years have elapsed since this region was opened to the inspection of civilized man.

The immense length of Red and Arkansas rivers, the fertility and variety of the lands from which their streams are derived, the extraordinary features and productions of the great natural meadows of Louisiana and Texas, have at length arrested the attention of mankind; and will, no doubt, in a few revolving years, exhibit, on an

immense surface, cultivated society, where, from countless ages, the wild beasts of the plain and forest were pursued by the prowling savage.

Before entering upon the settlements, or artificial productions of this immense region, it will be necessary to give an outline of its geography.

Louisiana, as ceded to the United States, included all that part of North America, comprised in the western slope of the Mississippi valley and the inclined plane south of Red river, and east of the Rio grand del Norte. When treating upon the Missouri territory, the western slope of the Mississippi valley will be described; the part now under review, lies south of Arkansaw, and west of the Mississippi river, and comprises two-thirds of the state of Louisiana, the whole province of Texas, and upwards of 1000,000 square miles of the Missouri territory. Its outlines are extremely definite, having the gulf of Mexico south; the gulf of Mexico and Rio Grande del Norte on the west; the Arkansaw river on the north; and the Mississippi on the east.

Rivers—Lakes—Mountains.—The Mississippi has been noticed. The Arkansaw rises nearly as high as the forty-second degree of north latitude, 33° west of Washington city; pursuing a south course, of about 200 miles, turns S. E. 500 miles; then turns nearly at right angles, and runs N. E. 150 miles; again resumes a S. E. course, which it pursues 150 miles; then assumes an east direction, which it preserves about 450 miles, to the place of its discharge into the Mississippi.

The river of secondary consequence in the region under review, is Red river. This stream rises near Santa Fe, in N. lat. 37° 30' and 29° west of Washington; runs nearly parallel to the Arkansaw, joins the Mississippi at 31° N. lat. after a comparative course of 1100 miles.

Between the Arkansaw and Red rivers, at N. lat. 34° 39' and 19° west of Washington city, rises Ouachitta. The Ouachitta is formed by three branches, which pursuing an east course, unite about 200 miles below their sources; form the river, which, below the junction, turns a little east of south; runs in a direct line 250 miles; joins Red river 30 miles above the union of the latter and Mississippi.

In the interval, between the Ouachitta, Arkansaw, and Mississippi, there exists several smaller streams, such as the Bœuf, Tensaw, and Maçon rivers, which all join and contribute to form Ouachitta.

The Atchafalaya flows from the Mississippi river, two miles below the mouth of Red river, and may be correctly considered as the continuation of the latter.

Southwest of Red river flows, towards the gulf of Mexico, another system of rivers, all pursuing nearly a southeast course. To this system appertains the Teche, Mermentau, Calcasieu, Sabine, Trinity, Brasso a Dios, Colorado, Guadalupe, St. Antonio, Nueces, and Rio Grande del Norte. All those streams rise in the angle between Red river and the Chippewan mountains, and water the province of Texas and part of the state of Louisiana.

Only two ranges of mountains are found on this tract, that of Masserne and St. Saba. The Masserne chain is a prolongation of the

Chippewan, and rises in detached masses, between Red and Arkansaw rivers. This range has not been carefully examined by men of science ; of course its component parts are not correctly known. It is supposed to be rich in minerals, and there are ample indications of iron. Mr. Dunbar, of Natchez, and Dr. Hunter, visited the warm springs on Ouachitta, which are situated on the spurs of this ridge. According to the information given by those gentlemen, the mountains are composed of secondary materials ; aluminous schist abound. From the existence of salt (muriate of soda,) and gypsum, we would be led to believe this region the limit between the secondary and transition tracts. The range of salt and gypsum lies nearly north and south: water highly impregnated with the former mineral has been found on Sabine, Red, Ouachitta, and Arkansaw, in great quantity ; the gypsum has only been met with on Ouachitta, but there is much reason to believe its existence is extensive in this region.

Limestone, marble, and supertine abound ; but no unequivocal testimony has yet been adduced of any primitive mass rising above the earth in this country.

From the scanty number of facts we have been able to collect on the geology of the interior of Louisiana and Texas, we are not able, at present, to decide upon its minute features ; the general outline is all that can be given.

The mountains of St. Saba appears to be a detached chain, lying between Red river and the streams that flow into the gulf of Mexico. This range is merely known to exist ; its component materials are absolutely unknown.

The mass of native iron, now in the city of New-York, which was a few years past sent from Louisiana, was found in the vicinity of St. Saba, and transported to Red river by land.

The country included between the Arkansaw river and gulf of Mexico, is naturally divided into two distinctive portions ; the alluvial valleys of the Mississippi and its confluent streams ; and the parched sandy tract partly prairie, and partly forest, to the west and southwest of the former. The low flooded marsh, winding along the Mexican gulf, is only the termination of both these great portions.

Amongst the extravagant exaggerations that have been made respecting the various features of Louisiana, none have been more inflated than the accounts respecting the extent of the prairies. All the lands in the state that can be denominated prairie, even including the swamps along the shore of the Mexican gulf, does not amount to 10,000 square miles, or 6,400,000 acres ; they may equal about one-fifth of the entire surface. Excepting some small detached prairies scattered over the country, the great expanse of these savannas are united in one continuous body, winding around the coast, from the Pearl to the Sabine river. The prairies of Opelousas and Attacapas, are like bays, indenting the country. Some are, indeed, detached, such as Prairie Grand Chevreuil, Prairie Laurent, Prairie Petite Bois, Grand Prairie, Prairie Mamou, and some others of less note, but the lines of woods between them are generally very narrow. For every purpose of a general sketch, those prairies may be considered as forming one immense meadow. Their peculiar traits

will be noticed when treating on each part of the country in detail. There exists but two routes from New Orleans to Opelousas and Attacapas, the upper by Plaquemine, and the lower by Lafourche and Teche. The former is the common channel of commerce. The produce of the country, and merchandise, are transported in large barges, from twenty to fifty tons burden.

It is only when the Mississippi is high, that any communication by water with the interior exists by Plaquemine. The latter stream is merely a small outlet of the Mississippi, into which water ceases to be discharged, when the river falls about ten feet within its banks.

The Mississippi has annually two floods; the first, in ordinary seasons, about New-year. There are but few years without a swell, about the foregoing season, sufficient to permit boats to pass Plaquemine. This first flood is almost uniformly succeeded by a depression previous to the great spring inundation.

The banks of Plaquemine are extremely fertile, but gradually depress in receding from the Mississippi. It is fifteen miles, following the stream from its efflux, to the discharge of Plaquemine into the Atchafalaya. Only the left shore of Plaquemine is inhabited; the right bank is too low, and in addition to that defect, is exposed to the incumbent waters of the Mississippi. There are some excellent farms on this stream, the general produce, cotton and lumber.

The Atchafalaya, as has been noticed, is strictly the continuation of Red river: it leaves the Mississippi two miles below the mouth of the former, and flows with extreme rapidity, when the Mississippi is at its greatest height. At times of low water no current enters Atchafalaya; the river becomes stagnant in all its length. Though some settlements have been attempted on its banks, there is very little land on Atchafalaya fit for culture. The soil is, indeed, excellent, but mostly exposed to inundation.

A narrow strip of high land skirts the stream on its left shore, for about six miles from its efflux. Some small spots of high land occur on the right bank, below the Bayou de Glaize, which falls in from the west, five miles from the Mississippi. Cane formerly grew upon this land, but is now mostly destroyed by the settlers.

Descending farther down the river, some small points of excellent land occur; but the banks and adjacent country are mostly submerged annually; and about twenty miles from its efflux all possibility of settlement ceases.

This river exhibits the singular phenomenon of being choked with timber, brought by the floods from the Mississippi. Some extraordinary tales have been published respecting this mass of timber; such as being sufficiently compact to admit of horses and men passing, as on a bridge; of having large trees growing upon it, and finally, of having been passed unperceived. The falsity of all this, the author can aver from his own personal observation, having surveyed the right bank of the river, on all the parts where the rafts are lodged. Men may pass in many places, but in none without difficulty and danger. The timber rises and falls with the water; is continually shifting; lies in all directions, leaving large enterstices open, and frequently moves in a body, from the weight of the incumbent mass.

It is about twenty miles from the upper to the lower extremity of the raft; ten miles only of this is actually choked with timber.

Five miles below the lower large raft, the Courtableau river comes in from Opelousas.

Thus far, the Atchafalaya pursues a south course, distant in a direct line from the Mississippi thirty-eight miles. One-half mile below the entrance of Courtableau, the navigation of Atchafalaya is again interrupted by a small raft of timber. The inhabitants of Opelousas have been at great expense and trouble to open a passage through the latter raft. It has been cut several times, but by the shifting of the timber has again closed: a channel is now open, but as no effectual means have been taken to prevent the residue of the timber to float into the passage, its remaining open for any length of time is precarious.

Twenty miles, by direct course, below the mouth of Courtableau, is the head of Cow-Island; the intermediate space the river flows a little east of south; the adjacent country annually overflowed. Cow-Island is about five miles in length, the river dividing into a number of channels, mostly flowing towards lake Chetimaches. Below Cow-Island the river turns east fifteen miles, and, as has been noticed, receives the Plaquemine. The junction of these two streams may be considered as the centre of departure to the various points in Attacapas and Opelousas.

Several persons, who are residents on Plaquemine, are provided with convenient boats, by which men and horses are transported to their destination. The expense cannot be easily estimated, so much depends upon the emergency of the occasion. Travellers have seldom to wait long for a passage, though frequently compelled to pay amply for prompt conveyance.

There are three principal routes that diverge from the junction of Plaquemine; by the Atchafalaya, in descending to the junction of that river and the Teche; by an outlet to lake Chetimaches, which leads to St. Martinsville and New Iberia*, and by the Atchafalaya in ascending to Opelousas. From the last route another diverges, leading to the upper settlements on Teche and Vermilion.†

Ten miles below the junction of the Atchafalaya and Plaquemine, is the lower raft in the latter river. An outlet leaves the river from its left shore, which leading into lake Natchez, conducts the navigator into the main stream by another water-course connecting the lake and river, at the lower extremity of the former. Twenty miles below lake Natchez, the Atchafalaya joins lake Chetimaches, and three miles lower down receives the Teche river. Twenty miles below the mouth of the Teche, the Atchafalaya falls into the gulf of Mexico. If the various rafts were removed out of the Atchafalaya, its channel would afford very great commercial facilities; but there are few rivers whose banks are of less value in an agricultural point of view. Except a short distance near the Mississippi, a few small spots above the great raft, some very confined points between the Courtableau and Plaquemine, the protrusion near the mouth of Teche,

* See route No. 15 & 16.

† See route No. 14.

and Rice's island, the bank of Atchafalaya is entirely overflowed, and rendered unfit for settlement.

The second route, by the lower Tensaw, leads into lake Chetimaches, to the Fausse point landing, and from thence to St. Martinsville.*

This is the most frequented by navigators and travellers, entering into the central parts of Attacapas; it can only be used, however, at high water, as at seasons when the streams are low, the communication with Atchafalaya is rendered impassable for boats.

The route by lake Natchez is used only by the inhabitants of lower Teche: it is the most circuitous of any of the channels of communication between Attacapas, Opelousas, and the Mississippi.

Portage is made from the Mississippi into Plaquemine, at low water, the distance by land, four miles. The tide flows up the Atchafalaya and Plaquemine, in the months of October and November, to Blake's, at the lower point of portage from the Mississippi. From this place, boats can at all seasons pass lake Natchez and the mouth of Teche.

The calculated distance from Blake's to Opelousas court-house, is ninety miles, or thirty French leagues. That part of Atchafalaya which intervenes between the Plaquemine and Cow-Island, has but little current, and is denominated, by the inhabitants of Opelousas, "the Big river." Above Cow-Island the outlet leaves the main stream, which again subdividing into a number of lakes and channels, affords two inlets, leading into Attacapas and Opelousas. The lower of these two inlets leads by Bayou Fusilier, to the Acadien point landing; the upper is the passage to Opelousas, when the raft near the mouth of Courtableau intersects the navigation of Atchafalaya.

Above Cow-Island the Atchafalaya is, at high water, as rapid in its course as the Mississippi.

The Courtableau is a gentle stream, except when swelled by rains, in Opelousas and Rapides, at seasons when the Atchafalaya is low.

A singular phenomenon is visible in the region between the efflux of Atchafalaya and the head of lake Chetimaches. The current is here more violent than in any other part of the inundated lands of Louisiana; and when the waters are at their highest elevation, the waters flow to the southward, without being much influenced by the channels of the streams. Below the mouth of Bayou Derbane, the tide rushes obliquely across the river Courtableau, and continuing between that stream and the high lands of Teche, enters lake Chetimaches. The same appearances exhibit themselves in the Atchafalaya, between the mouth of Courtableau and Cow-Island, and the surplus waters from the latter river also find a deposite in lake Chetimaches.

Nothing can be more dreary than a voyage at high water from the Mississippi over this sunken plain. The gloom of this flooded forest, however, heightens the delight of at once being introduced into the cheerful and expansive meadows of Opelousas and Attacapas. Ascending the Courtableau, indications of high land are first seen eight miles above its junction with Atchafalaya, where spots of cane appear, and the banks near the outlet of a small stream, rises above

* See route No. 1A.

casual overflow. Above the mouth of Bayou Derbane, first appears banks that would admit culture; the selva of high ground is here, however, confined, and not until ascending the stream nine miles farther to Baré's, will the traveller be greeted with the habitations of man. Here is the first prairie met with, in coming up the Courtableau; it is small, three miles by two, and detached from the expanded savannas of Opelousas. The place affords a specimen of the rich and beautiful country to the south and west.

Ascending the stream six miles above Baré's, brings the voyager to Carron's landing, and five miles by land from thence to the church of St. Landré.

There are three places that are considered as landing places in Opelousas; Baré's, Carron's, and Le Melle's. Before entering more finally into detail on the productions, roads, political divisions, and other localities of Opelousas and Attacapas, it will be necessary to sketch the geological structure of those places.

Attacapas and Opelousas, when taken in connexion, form a natural division, distinguished from the adjacent country by peculiar features; but the lines of separation between those two places respectively, are in great part artificial. The two places are relatively situated N. W. and S. E.; Attacapas occupying the southeastern, and Opelousas the northwestern position.

Opelousas is bounded south by the gulf of Mexico; west by the Sabine river; north by the 31° N. lat.; northeast by the parish of Avoyelles; east by Atchafalaya; and southeast by Attacapas.

Attacapas is bounded southwest and south by the gulf of Mexico; southwest by Opelousas; and northeast and east by Atchafalaya river. Opelousas extends over 7600, and Attacapas over 5100 square miles, forming together an extent of 12,700 square miles.

The rivers of Opelousas, are Sabine, Calcasieu, Mermentau, Courtableau, and Atchafalaya; those of Attacapas, are Mermentau, Vermilion, Teche, and Atchafalaya.

An immense chain of lakes and bays lies along the gulf of Mexico, in front of Opelousas and Attacapas; Sabine lake, Calcasieu lake, Mermentau lake, the three bays of Vermilion, Côte Blanche, and Atchafalaya, and lake Chetimaches.

Sabine river is part of the western limit of the state of Louisiana, as well as the boundary of Opelousas. The mouth of Sabine lies in 29° 36' N. lat. and 16° 57' W. from Washington city; the adjacent country is an entire prairie, not a single tree of any kind being visible from the sea-shore. The river is about a quarter of a mile wide at its discharge into the gulf, and maintains that width six miles, where it dilates into a wide shallow lake of thirty miles in length by eight wide; its depth does not, at a medium, exceed three feet. The country in all directions near the Sabine lake is prairie. A few clumps of trees stand on the bank near the entrance of the river into the head of the lake, but are few, and of stunted growth.

Three miles southwest of the mouth of Sabine, into the head of the lake, the Natchez comes in from the N. W. This latter stream rises in, and waters part of Texas, and under the head of that province its features will be noticed. Above the lake, the Sabine is

contracted to a stream of about 200 yards wide, its channel excessively winding. The entrance of Sabine into the lake may be known by persons coming up the lake, by the following means. The range of the lake is N. E. by N., and between the Netchez and Sabine run banks of white shells, behind which are a few scattering trees; turning the view in the direction of the lake, an immense mound of shells will appear on the right, crowned with dwarf trees, the last that are visible in that course. The river enters the lake at the western extremity of this latter bank of shells, and is not perceptible until within a very short distance of its mouth.

Ten miles above the lake the prairie ceases, and woods enclose the river on both banks. About half way between the lake and woods, the western shore rises above inundation; the soil is, however, poor and thin. Pine is the first trees that are seen, and are, indeed, except on bottoms liable to inundation, the prevailing timber, on and near Sabine, in all its length.

Above the woods there is nothing very remarkable to be noted respecting the Sabine. One bank, generally the western, is high and sometimes hilly. At N. lat 30° the Wacabatcha, a considerable stream, falls in from the N. W. As high as the bounds of Opelousas 31° N. lat. no creeks of any consequence enter from the eastern, and the adjacent country is generally pine wood; soil barren, as is usual, where that timber prevails.

The next river east of the Sabine is the Calcasieu. The latter stream rises in the parish of Natchitoches, in $31^{\circ} 30'$ N. lat. and pursuing nearly a south course, falls into the gulf of Mexico, forty miles east of the Sabine. Like other streams in its vicinity, the Calcasieu dilates into a large lake, and again contracts to the form of a river, before entering the gulf of Mexico. The Sabine and Calcasieu lakes have great resemblance to each other; the latter is rather the most extensive. It may be noted as a singularity, that the head of both are marked by shell banks, which occur upon no other part of the banks of either.

These two lakes may be now considered as the retreat of the wild fowl, of the duck and goose species, who have encountered to the eastward their great destroyer man! These creatures are yet found in immense flocks in the winter season, in every part of the country, but in no one place in such quantity as the two lakes of Sabine and Calcasieu.

The Mermentau may, with propriety, be called the river of Opelousas, from where its branches are all drawn, and some of the finest parts of which it waters. The Bayou Plaquemine, Brulé Cane, and Nezpiqué, and the Queue Tortue, are the constituent streams that form the Mermentau. The features of the country, watered by the latter river, have considerable resemblance to those places that are drained by Sabine and Calcasieu, but the traveller can perceive on the eastern waters of the Mermentau his approach towards the delta of the Mississippi. Pine becomes more rare, the various species of oak more frequent; the soil evidently of much better quality. The prairies are more elevated and diversified. The lower part of the Mermentau, like its neighbours, opens into a spacious lake, and before

its exit to the sea, again assumes the form and width of a small river.

The depth of water upon the respective bars of the three foregoing rivers, does not materially differ. The coast, from the mouth of the Sabine to that of the Mermentau, and, in fact, to Vermilion bay, is remarkably uniform. There is a small projection east of the mouth of Sabine, which is composed of soft mud; this projection extends about three miles, where it is followed by a hard sandy beach mixed with shells, and in a distance of thirty seven-miles: between the mud bank of Sabine and mouth of Calcasieu, only one narrow inlet occurs. The shore is here uniform, as the side of a wharf, bearing north seventy east by magnetic courses, which direction it maintains to the mouth of the Mermentau. On almost all the maps, hitherto published of this coast, the bearings and general appearance is most wretchedly delineated. Gauld's map of the coast of the gulf of Mexico, and some of the Spanish charts, are exceptions to this reproach. Lafon's map of Louisiana exhibits the range of the coast as bearing about south seventy degrees east, and very much indented. From either the positions or delineations of this map, no person could possibly recognise the shore of this country. When the author of this treatise surveyed the coast in 1812-13, he was supplied with one of Lafon's Maps, and made the comparison on the spot between the map and the positions in nature.

Advancing to the eastward of the Mermentau, the first stream that occurs is the Vermilion. It is, perhaps, an anomaly in geography, that the same sources contribute to form the Mermentau, Vermilion, Teche, and Courtableau rivers; but such is the fact.

The neighbourhood of Opelousas church, is a kind of table land, from which the waters flow as from a common centre. Without reference to a good map, it is very difficult to explain the very complicated structure of this singular country. The water-courses are interwoven into each other, with an intricacy that demands much attention to comprehend with precision. Three miles northwest of Opelousas church, there is, surrounded by prairie, a body of woods two miles long and a half mile wide. This isolated forest is not unaptly called *Isle au L'Anglois*. The denomination of island is not inappropriate when applied to a copse standing in a sea of grass.

From the east side of this island, flows the head waters of the Mermentau. The source of the river is an extensive low wet plain. The water gradually collects into a single channel, which passes to the southward, within less than a mile of Opelousas church; and continuing that course about three miles, divides; one part running eastward into Bayou Bourbée, contributes to form the Vermilion; the other runs southwest, into Bayou Plaquemine Brulée, and finally, into the Mermentau river.

Three miles north of Opelousas court-house, the drains of the prairie are connected; part of the water flows north, into Bayou Grand Louis, and the other south, forming the head of Bayou Bourbée.

Twenty miles northwest from Opelousas church in Grand Prairie, rises Bayou Grand Louis, which in its progress receives the water

from the various prairies with which it is environed, and at Carron's landing is a large creek. A branch flowing from the eastward of Opelousas court-house, joins Bayou Grand Louis at Carron's landing. The stream, now bearing the name of Bayou Carron, flows a little more than half a mile, divides; one part running to the S. E. forms the Teche, and the other part continuing the name of Bayou Carron, after a course of less than two miles, falls into the Courtableau river.

In the old maps of land in Opelousas, Bayou Grand Louis is named Teche; of which latter it is really the source. After leaving Bayou Carron, the Teche flows to the southeast seven miles, receives an outlet of the Courtableau, which leaves that river at Baré's. Below the junction the streams flow to the southward ten miles, and receives from the west Bayou Bourbé. This latter stream is formed from the various drains of the prairies to the southward of Opelousas church. Its extreme northern source is, as has been observed, three miles north of the latter place; but is at the church only a mere drain; continues to the south about eight miles, and is augmented by Chretien's Bayou, a large creek from Prairie Bellevue; it then turns southeast along the Grand Côteaux, about four miles, divides; one part turning east enters the Teche, the other south, receives Bayou Carron Crow three miles below, and thence the united stream bears the name of Vermilion river. In the latter, three miles below the entrance of Carron Crow, Bayou Pont Brulé comes in from the eastward. The Vermilion continues to flow southward ten miles; is augmented by the Bayou Queue Tortue, from the vicinity of St. Martinsville, and turns to the southwest, sixteen or seventeen miles. Within a very small distance from the 30° N. lat. the Vermilion again bends to the southeast ten miles, and then assumes a south course of twelve miles, falls into Vermilion bay. Below the Queue Tortue, no creeks of any note enter the Vermilion.

The eastern division of Bayou Bourbé bears the name of Bayou Fusilier, and is the last tributary stream which enters the Teche. Below the Fusilier the Teche forms an immense bend to the eastward, southward, and westward, of twelve miles, in a channel almost as uniform as if formed by art; it then recurves again southeastward five miles, and assumes a south course fifteen miles; passes St. Martinsville, and flows to M. St. Maur's plantation, where commences the Fausse point bend. This latter curve is twenty two miles in circuit, and yet the river comes again within less than $1\frac{1}{2}$ miles of M. St. Maur's house. The river then rapidly turns to the southward, and about two miles from this turn, passes New Iberia. It is only nine miles from St. Martinsville to New Iberia by land, and upwards of thirty by water. Below New Iberia, the Teche flows twenty miles southeast to M. Sorrel's plantation. The river then turns to the eastward, and in a direct distance of thirteen miles, to the court-house of St. Mary's; forms two great bends; the upper of thirteen and the lower twenty miles. Below the latter bend the river flows a little south of east twenty-five miles, and falls into the Atchafalaya.

The entire length of the Teche, if Bayou Grand Louis is included, exceeds one hundred and seventy miles. There exists no known river on the globe with traits of exact analogy to the Teche; many of

its features are peculiar to itself. On examination of the country through which it flows, the mind is left at a loss to account for the possibility of a river being formed where its channel is situated. In the general structure of its banks, it bears a resemblance to the Mississippi, but that single feature excepted, no other likeness between the two rivers exists; and the Teche differs more again from the Vermilion, Mermentau, Calcasieu, and Sabine, than even from the Mississippi.

It is by analogy that verbal descriptions are understood, and for that simple reason, it is almost impossible to describe the Teche, in language conveying clear conceptions of the object; as there is no river with which it can be correctly compared.

The reader may, as far as possible, conceive a stream of upwards of one hundred miles in length, gradually widening and deepening without any visible source of augmentation. At the mouth of Bayou Fusilier, the Teche is at low water not more than three feet deep, and about fifty yards from high bank to high bank; and where it enters the Atchafalaya, it is upwards of two hundred yards wide, and more than twenty in depth. Vessels drawing five feet water go up to New Iberia. The tide often flows above that place. Though there are, when the magnitude of the stream is estimated, some of the most extensive bends in the Teche that can be found in any known river, yet the channel is, as has been noticed, so extremely regular as to imitate if not surpass the efforts of art.

The banks are high; and sloping gradually from the water, rise far above any swell ever known in the river. Though evidently formed by alluvion, the banks of the Teche must have been accumulated by means of a situation of things that no longer exists. There must have been a time when a body of water annually inundated this country; but those floods have found another vent, for ages past; and at this time, the banks of the Teche inherit the inexhaustible fertility of alluvial soil, without subjecting their inhabitants to the inconvenience of inundation.

At this epoch it is difficult to conceive of any lands being superior to those of the Teche; and however formed, they richly repay their cultivators. We will resume the subject of the local positions of this river, and the vegetable productions, after completing a topographical sketch of the country under review.

The Courtableau is the stream of the cultivated parts of Opelousas that unites that fine country with the regions watered by the Mississippi. So much has been observed respecting the Courtableau, when treating of the navigable routes from New Orleans to Opelousas and Attacapas, as much to abridge the labour of detail in this place. It will be sufficient to observe, that the Courtableau is formed by the confluent streams of the Bayous, Crocodile, and Bœuf; which after flowing from the pine hills S. W. of Alexandria in Rapides in a nearly parallel course of about seventy miles by a direct line, unite eight miles north of Opelousas church, and forms the Courtableau. More will be given in the sequel respecting this river. We will take up the description of the prairies of Opelousas and Attacapas, which will complete the natural topography of the country.

It has been already noticed, that the extensive prairies of that country are, strictly speaking, all connected, and that those in the interior are mere bays of the vast open sea marsh. The subdivisions have all, however, received local names, under which we will delineate them in this place, following the same order we have pursued with the rivers.*

THE SABINE PRAIRIE occupies all the space between that river and Calcasieu. Near the sea-shore, this prairie is an extensive marsh; but on receding from the gulf, the surface gradually rises; and before reaching the woods, much high land is found. The soil is, like that of the adjacent pine woods, almost all sterile. Few settlements have been formed in this quarter; and from its position and the barrenness of the land, it is not very probable any considerable number of people will be found upon it for many years to come. No surveys have yet been made by the United States on any water that enters the Sabine river; of course, the few families that are settled near that stream, are either on land granted by the French or Spanish governments, or are unauthorized intruders upon the public soil. Not more than two or three grants were ever made by the Spanish government of land on the waters of Sabine, and those were all above 31° N. lat. The French government, while in the political possession of Louisiana, though always claiming right of territory to the Rio Grande del Norte, never made grants of land west of the waters of the Mermentau.

The surveyors under the government of the United States, in performing surveys in Louisiana, were limited south of Red river to the meridian of Natchitoches. This arrangement left unsurveyed all the lands watered by the Sabine, and part of those of Red and Calcasieu rivers.

CALCASIU PRAIRIE. This prairie, including the marsh between the Calcasieu and Mermentau lake, is seventy miles long, and will average twenty wide, or 1400 square miles, equal to 896,000 acres. Of this expanse about 640,000 acres is sufficiently elevated for cultivation; but the soil is poor and sterile. The pine woods border the prairie in every direction where timber is found. Copses of black jack oak, interspersed with pine, are found along the Nexpique. The woods on Bayou-Lacassine are of mixed growth, pine, oak, hickory, and ash, on the high land, and in the swamps, cypress and maple. On the N. W. part of this prairie, in the vicinity of the little and upper lake of Calcasieu, is the best soil to be found in its whole extent. The timber is here a mixture of pine, black-oak, red-oak, hickory, ash, and other trees, that indicate a second rate soil. Some spots are, indeed, naturally fertile, but the general surface is sterile.

The meridian of Natchitoches runs through the western part of the Calcasieu Prairie, leaving the upper lake out of the surveys made by the authority of the United States government. Some partial grants were made by the Spanish government, to spots of land on the waters of Calcasieu, and some settlements have been formed upon this river

* See table No. 1, in the Appendix to this work.

without any grant; but the greatest part of the country remains in pristine state. The general surface of the country is certainly superior to that watered by the Sabine, though the deteriorating influence of the clay soil of the pine hills is every where visible.

The eastern border of the Calcasieu Prairie on the waters of Mermentau river, is tolerably well peopled. Many of the largest stocks of cattle in Opelousas are to be found in this range. Good crops of corn are made by the manure produced in the folds where cattle are collected. The pursuits of all the inhabitants are pastoral; agriculture is only exercised to obtain the common necessities of life, bread, and garden vegetables. The houses and their appurtenances evince the simplicity of the modes of existence of their occupants.

A journey from New Orleans to the mouth of the Sabine, exhibits man in every stage of his progress, from the palace to the hut, and inversely. To an observing eye, the rapid transition from the superb mansions of the wealthy citizens of New Orleans and its vicinity, to the rudely constructed log cabin, on the Sabine and Calcasieu, will suggest matter for the deepest reflection. In the short period of ten or fifteen days, can be viewed the moral revolutions of all ages. On a space of three hundred miles can be found human beings from the most civilized to the most savage. In the city of New Orleans, four or five of the most elegant of the living languages of the earth are now spoken in all their purity; and there is now enjoyed all that luxury and learning can bestow. Upon the banks of the Mississippi many of the sugar and cotton planters live in edifices, where, within and without, are exhibited all that art, aided by wealth, can produce. In Attacapas and Opelousas the glare of expensive luxury vanishes, and is followed by substantial independence. Often the loom occupies one part of the common sitting room or parlour of families that are really wealthy. The farm houses are generally rough, but solid buildings, in which the inhabitant enjoys good, wholesome, and abundant food, and excellent beds.

In the western parts of Opelousas are found those pastoral hunters, who recall to our imagination the primitive times of history. Their flocks and the chase furnish them with subsistence and occupation. Lodged in cabins rudely and hastily constructed, and really enjoying safety and plenty, it cannot be an illusion of fancy to consider these people as in possession of that object, *happiness*, that too often eludes the pursuit of men more highly cultivated. This is not a fancied picture; the writer often has, and particularly between the 3d and 15th of January, 1813, passed from the Sabine through Opelousas to New Orleans, and beheld, in reality, all the various gradations, to the contemplation of which he now invites his reader.

In the deep and solemn gloom of the Sabine woods, and the more imposing immensity of its prairies, has he often reflected upon the slow, but certain advance of the descendants of Europe in America. He considered himself as upon or near the line of contact, between two of those masses of civilized men, who have changed the political, religious, and moral state of this continent. The few inhabitants to be seen upon this confine of two empires, seem to indicate the utmost verge of inhabited earth, and the earliest dawn of human improve-

ment. It is but justice to those men to say, that as far as the experience of the writer can enable him to judge of their character, they do ample justice to the long received opinion of the natural hospitality of man. He never once, in the course of many years, was turned away hungry from the door, or denied a nightly shelter under the roof of one of those apparently uncultivated sons of the forest. Oftentimes has he experienced from them, when weary and exhausted, a warm and generous reception, that many who repose on beds of down might blush to behold. From this honourable and true character, the much and very unjustly abused inhabitant of the Spanish Presidios is no exception. On an immense extent of territory these latter pursue exactly the same modes of life with the western people of Opelousas, and are distinguished by the same virtues.

There is a common and a vulgar observation very prevalent, in which the frontier inhabitants of Louisiana, the Spanish internal provinces, and even those of the United States, are assimilated to the native savage tribes, whose former residence these frontier men now occupy. Disgusting expressions, such as "they are just as bad as Indians"—"they are worse than savages"—"I would rather live amongst Choctaws or Shawnees," may be heard daily in some of the most polished circles, when speaking of the men that compose that hardy phalanx, whose generous bravery has oftentimes saved those decaimers from the tomahawk, scalping knife, or fire-brand of these same savages.

It may be asserted, without danger of contradiction, that the frontier men of the United States, the pastoral creole of Louisiana, and the horsemen of the Spanish internal provinces, are in a much greater degree superior to the aboriginal savages of America, in point of improvement, than they are inferior in mental endowments to the most polished society in Philadelphia, New-York, London, Paris, Rome, or Berlin. Whatever may be the cause, it is a fact, that the moral qualities of the American savages have been extolled far above their real merits, and the character of the pioneers of wealth, commerce, and education, depreciated in about the same ratio; and in both instances, pretended philosophy has made inductions in direct opposition to the facts upon which those inductions are supposed to be founded.

Mistaken zeal has exhausted, in the last two centuries, upon the odurate savage of this continent, means, that if applied to the use and assistance of some of our own frontier villages, would have rendered them seats of industry, abundance, and happiness. We are every day entertained with the accounts of missionaries, sent to convert to christianity, and instruct in useful knowledge, Indian tribes; but who has ever heard of missions being sent to the banks of Mermentau; whilst it will hardly admit a doubt, that more knowledge could be instilled into the minds of the two thousand people now on that river, in twenty years, than could be imparted in two centuries to all the savage tribes from the Mexican gulf to Hudson's bay.

PRAIRIE MAMOU is enclosed between two branches of the Mermentau; the Nezpique and Plaqueanne Brulé; it is about forty miles in length, by a medial breadth of five, or extends over 200

square miles, making 128,000 acres. The land and timber in the vicinity of this prairie are very various. All the timber trees known in Opelousas, except *liriodendron tulipifera*, (poplar) are to be found on the border of Prairie Mamou. Some spots of land are moderately fertile, but the common quality of the land is sterile. There are only a few of the inhabitants who are not pastoral in their pursuits. Many families are established here as hired stock-holders; they are nearly all Americans, as the emigrants from the United States are denominated in Louisiana.

GRAND PRAIRIE is next east of Prairie Mamou, and of very near a similar extent. This latter prairie is partly on the waters of Mermentau, Courtableau, and Teche. The land in Grand Prairie is much superior to that of any of the preceding, though the soil and timber of the southwestern part assimilate to those in Prairie Mamou. The border of Grand Prairie is thickly peopled; many of its inhabitants are wealthy farmers, and few persons are exclusively pastoral in their pursuits.

The population here is a mixture of French and Americans; the former are the most numerous and wealthy. Great part of the best land in Grand Prairie was granted to individuals by the governments of France and Spain. But few spots of any value remained vacant when the United States government obtained the country. Some of the most agreeable and healthy situations in Opelousas, are found in Grand Prairie. The well water is excellent. There are many wet places, but none that can be called stagnant; few marshes exist. The common crops are maize and cotton; the latter is the staple for market. The land is very well adapted to the culture of cotton, particularly the parts watered by Bayou Grand Louis. By a singular coincidence, the land on the latter stream assimilates to that on the Teche. Beef, pork, butter, cheese, and tallow, are also produced in considerable quantities. The settlements are increasing rather by natural means, than by emigration from other places. Though the price of land is less in Grand Prairie than on the Teche, in a ratio of one to three, yet, from its situation, and from the production of sugar, most of the emigrants who have removed to Opelousas, in the fourteen years that have elapsed since the establishment of the United States government, have finally settled on the Teche, or in its vicinity.

The timber in the woods that border Grand Prairie, on the waters of Mermentau, consists of oak of several species, ash, hickory, dogwood, pine, linden, laurel-magnolia, and some maple, and wild cherry. On the Teche is found black oak, white-oak, red oak, willow-oak, sassafras, poplar, linden, ash, hickory, dogwood, wild cherry, laurel-magnolia, and a number of other species of trees. The underwood, spice wood, Spanish mulberry, muscadine, grape vine, and other vines and shrubbery, indicative of a productive soil. When the settlements were first formed, the woodland was covered with large cane, (*arundo gigantea*;) but the swine, cattle, and fire, have almost exterminated this vegetable, west of Bayou Crocodile. In severe winters, the cane is a most invaluable resource for cattle; but it is a grass that always disappears in a

short time after the establishment of man and his domestic animals in its neighbourhood

OPELOUSAS PRAIRIE extends from the gulf of Mexico, nearly north eighty miles, and is bounded on the east and north by the Vermilion and Teche rivers, and on the west by the woods of Bayou Mellet, Bayou Cane, and by the Mermentau river. This sea of grass is, on an average, twenty-five miles wide; and extends over, including the sea marsh, upwards of 1,200,000 acres. Some of the most flourishing settlements of Opelousas and Attacapas are in this prairie. It is naturally divided into six distinct portions, the sea marsh, the prairie between the Vermilion and Queue Tortue, Prairie Bellevue, Queue Tortue Prairie, cove of Plaquemine Brulé, and Prairie Mellet.

The marsh between Vermilion bay and the lake of Mermentau, has nothing to distinguish it from the other marshes of the country, except its extent, which is about thirty miles square. This great expanse, though generally covered with grass, is not entirely denuded of trees. Near the sea coast, a singular appearance attracts the attention. These are ridges which rise above the common level of the marsh, are dry and solid land, clothed with live oak trees. These ridges appear to have been once the sea-shore, and to have been in succession abandoned by the surf, as others were formed by the same means; they all run in lines parallel to the shore, and are separated by lagoons, ponds, or the marsh. It is extremely difficult to reach many of these islands; and as no adequate object presents itself to reward the trouble, they are visited but seldom by man. They are the undisturbed retreats of wild animals, deer, turkeys, grouse, and perhaps the bear.

From an inspection of the structure of the sea-coast of Attacapas and Opelousas, and in fact that of all Louisiana, we can hardly doubt that those parts, properly called marsh, have been formed by the reflux of the sea, whilst much of the interior has been created by the alluvion of the various rivers. This hypothesis is strengthened by the well known facts that in all Louisiana the quality of the soil of any place is precisely similar to the general character of the lands of the particular river from which it is formed.

The live oak islands, between Vermilion and Mermentau, have their correlatives along the coast of Louisiana, as visited by the author. The live oak tree entirely ceases with the Mermentau; it is not found upon either the Sabine or Calcasieu rivers.

From the great sameness of the coast, it is almost impossible, either by map or verbal description, to convey to any person a distinction between the entrances of Sabine, Calcasieu, or Mermentau. The live oak tree is the only unerring mark. The author left the mouth of Sabine, intending to pass Calcasieu and enter Mermentau; but found an inlet between Sabine and Calcasieu, which he mistook for the latter. Consequently, when he came to the real mouth of the Calcasieu, he entered it, under a supposition that it was the Mermentau. The mistake was not corrected, until ascending to the upper lake of Calcasieu, he learned the truth from the inhabitants. From its extreme inaccuracy, the only map he possessed gave him no in-

formation; the rivers and lakes were so very inaccurately laid down, that the map was, in fact, entirely useless. Having before learned, from persons who had passed down the Mermentau to the gulf, the abundance of live oak on that stream, it was with no little astonishment he could find neither that nor any other tree on Calcasieu river or lake, until penetrating the country upwards of forty miles, the *robinia pumila** first presented itself at the head of the large lake.

Any person wishing in future to enter either of those rivers, may be prevented from mistaking his object, by paying attention to the live oak. If that tree is wanting on any river, he may be sure of being west of the Mermentau, as it grows in lesser or greater quantities on all rivers from the Mermentau to the Mississippi, and is never to be found entirely wanting, as has been observed it is on the Sabine and Calcasieu. The live oak tree affords a demarkation of climate; and proves, beyond dispute, that the atmosphere of Louisiana lowers in temperature in advancing westward. On Mobile river the live oak is found almost to 31° N. lat. Between Mobile and the Mississippi, the live oak disappears about $30^{\circ} 30'$, whilst on the latter stream it fails ten miles farther south. On Atchafalaya it is seen above Cow-Island as high as $30^{\circ} 20'$ N. lat. In Attacapas, by a singular local shelter, it grows upon the Teche at the junction of that river and Bayou Fusilier. That its existence in the latter place arises from the shelter of the adjoining woods is evident, as only four miles to the west, where the trees are exposed to the sweeping winds of Prairie Bellevue, the live oak is unknown; and what is more remarkable, is, that above the junction of Teche and Fusilier, on the north side of the woods that border these streams, and within less than one mile from where the live oak exhibits trees three feet in diameter, it is entirely wanting, without any evidence remaining of its ever having existed. At Opelousas church, ten minutes north of the junction of Teche and Fusilier, the live oak is an exotic preserved with difficulty.

On the waters of Mermentau river, the live oak appears first near the junction of Bayou Nezpiqué and Plaquemine Brulé, and does not advance more than three miles north of that place. On Lacasine a few stems appear. West of the latter Bayou, as far as known to the author, the tree entirely disappears. Whilst sheltered by the thick forests of the Alabama territory and state of Mississippi, and by the equally impervious woods of the Mississippi swamps, the live oak can exist; but when exposed to the chilling winds of the interminable prairies of Texas, this fine and valuable tree perishes. That its existence depends upon local position is demonstrated by the single cir-

* This species of the robinia, is probably a non-descript. The tree grows about fifteen feet high, dark scaly bark; the thorns are very numerous and sharp pointed; the leaves are small, oval, and pinnated, of a light green colour; the pericarp is a legume, shaped like a common bean; the fruit oval, flattened, and of a dusky green. The name of dwarf robinia, given to this tree in the text, is not very appropriate, as many other species of that family are equally humble: *robinia aquatica*, or *maritima*, would be more characteristic. The author first saw the *robinia pumila* growing at Mr. Bringier's on the Acadien coast, where it had been introduced by that gentleman as a proper component of hedges.

cumstance, that it grows farther north both east and west, than on the Mississippi. This is the case with many other vegetables, and it is obviously owing to the cooling of the air by means of that great river, and to the vent given by its channel, to winds of a temperature below that of the adjacent country.

That part of Opelousas Prairie lying between Vermilion river and Bayou Queue Tortue, rises above the sea marsh, and exhibits some spots favourable to agriculture. The soil on the Vermilion is much superior to that on Queue Tortue, though less extensive. The margin of the woods are settled on both sides of the prairie. Those persons who reside on Queue Tortue are generally pastoral; those on Vermilion agricultural.

BELLEVUE PRAIRIE is upwards of thirty miles in length from north to south, and at a medium, six miles wide from east to west. Few places have ever received a more appropriate name; the most agreeable, productive, and best cultivated parts of Opelousas and Attacapas are in this beautiful expanse. The church of St. Landre is on an elevated spot on the eastern border of Prairie Bellevue; and the town and seat of justice for the parish stands in a bay, that passing the church and town, extends to the southeast three miles, and terminates at the woods of Bayou Bourbée. The inhabitants of the country confine the name of *Prairie Bellevue* to that particular part which stretches from the point of woods below the church to Chretien's, about six miles, and give other local appellations to the several bays that indent the woods of the Vermilion to the south, and Bayou Grand Louis to the north of the church and town. The term Prairie Bellevue has been made general in Darby's Louisiana, and used in this treatise so as to include the range of prairie lying between M. Fontenot's, in Opelousas, to the lower extremity of the Penault settlement in Attacapas. There were in Opelousas upwards of five thousand people in 1810, more than one half of whom were in this prairie.

A very marked difference exists in the soil in the various parts of Bellevue; the eastern border is variegated, much of the surface rolling, and the land extremely fertile; the middle parts in the open prairie fertile, some parts elevated, but mostly flat and wet, though not marshy, so that cattle and horses pass it in all directions without danger or difficulty. The western part upon Bayou Queue Tortue, Bayou Plaquemine Brulé, and Bayou Mellet, varies with the general effect of these several water-courses; upon Queue Tortue the soil is sterile; upon Plaquemine Brulé and Mellet, of second rate quality; the northern upon Bayou Grand Louis, partaking of the beauty and fertility of the land of Teche.

Queue Tortue Prairie, the cove of Plaquemine Brulé, and Prairie Mellet, are merely bays extending from Prairie Bellevue, in the direction of the several streams from which their distinctive appellations have been taken. The land in these three latter prairies is generally flat and wet, and extremely well adapted to produce the most abundant pasturage. Some parts, however, are sufficiently elevated for tillage, and though the soil is naturally thin, yet it retains manure with great tenacity; a quality indeed common to all

the prairie lands of Opelousas and Attacapas, and which they derive from the almost total absence of sand in their composition.

The timber in every part around the Bellevue Prairie is excellent, particularly the various kinds of oak. A singular phenomenon often, marked by the author, is to be seen here; the *liriodendron tulipifera** (poplar) is abundant, and very large in all the woods in the vicinity of Opelousas; but in the woods to the westward of Prairie Bellevue, this tree has never been seen; the same remark may, in a great measure, however, be made respecting the black walnut, which, though sometimes met with on the waters of the Mermentau, Calcasieu, and Sabine, is rare on those streams, and small in growth; whilst, in the woods of Teche, Bayou Bœuf, and other water-courses flowing into Atchafalaya, the black-walnut tree is abundant and large.

ATTACAPAS PRAIRIE occupies the space between the woods of Vermilion and Teche; it is about forty miles in length, but of very unequal width; lying in the form of a triangle, the base of which rests upon the Teche river, with the perpendicular running nearly west from New Iberia. Many ranges of woods chequer this prairie; the most remarkable of which, are Point Perdue, Carlines Côte, the hills of Petite Anse, and Grand Côte, the woods upon Bayou Tortue, and Isle Cyprière, (Cypress island.) This prairie, commencing in a point at the junction of Teche and Fusilier, gradually widens in advancing southward; is again contracted by the woods of Bayou Tortue to less than two miles; expands below New Iberia to the southwest and northwest. The 30° N. lat. passes this prairie two miles south of New Iberia; along which the prairie is twenty-five miles wide. The place included within the Fausse point bend in Teche, is an embranchment of the Attacapas prairie. The distance over the prairie N. W. from New Iberia to the Vermilion, is about eighteen, and from New Iberia southwest to the extremity of the prairie, following the Teche, upwards of thirty miles.

All the lands of the Attacapas Prairie sufficiently elevated, are extremely fertile; all the vegetable products known in Louisiana, can be produced upon the various parts of this fine prairie; and it is probable that its soil would be congenial to many plants not yet introduced into the country; the olive in particular.

By far the most extensive and wealthy settlement yet made in Louisiana west of the Atchafalaya, is upon the right bank of the Te-

* It is very difficult to determine, which is most absurd, the vulgar or the botanical name of this truly useful and elegant tree. When first introduced into Europe, it received the name of *tulipifera*. Linnæus changed it to *liriodendron*; for what reason, it would have been difficult for him to explain. Mr. Miller, in his *Gardener's Dictionary*, restores the name *tulipifera*; and Michaux, in order to give each fair play, uses both. Every writer who follows, must, to be understood, use these terms, however much he may despise this really deceptive abuse of words. To neither the lily or tulip has the flower of this tree even a fair resemblance, much less any botanical affinity. What is singular, is, that all this jumble of corrupt Greek and Latin, is used to designate a tree, only one species of which is known to exist, and which is peculiarly remarkable for possessing distinctive characters, that would seem to have defied all the system-mongers in the world to confound with any other object in nature. Its name is just about as appropriate as *ursus leonis* would be if applied to the horse.

che. There is a compact line of settlement extending the entire length of Attacapas, from Berwick's bay to the mouth of Fusilier, a distance, following the sinuosities of the stream, of one hundred and forty miles. There is, at this time, upwards of ten thousand persons in Attacapas, one half of whom reside on the right bank of Teche, including the two towns of St. Martinsville and New Iberia.

The soil and surface between the Vermilion and Teche present many very striking contrasts. The most remarkable objects are the hills of Côte Blanche, Grand Côte, Petite Anse, and Côte Carline. They are all of similar construction; covered with timber of species different from that found on the adjacent marshes, and rising to upwards of one hundred feet elevation out of the flat and inundated prairie. Upon the Petite Anse, the author enumerated upwards of forty different species of trees and shrubs, amongst the most remarkable of which were live oak, walnut, white and black hickory, and sweet gum. This hill is naturally environed by an impassable marsh, out of which a sluggish bayou meanders to the sea. The inhabitants of Attacapas near New Iberia, cut a canal into this bayou from the solid prairie; and on the side next the island threw up a causeway from the bayou to the high land, and by this means opened a communication with the Petite Anse. Several persons are settled upon this island. The land is excellent, and consists of about three thousand acres of high productive soil.

It is one of the most curious phenomena that the country affords, to see these elevations rising out of the deep morass, and exhibiting features in common with the woods of the higher Teche. The dogwood, (*cornus florida*.) iron wood, (*carpinus ostrya*.) and hombeary, (*carpinus americana*.) are all rare upon the lower Teche, but abound upon the Petite Anse. The entire aspect of the interior part of this island, resembles the wood land of Opelousas upon the Teche, except the presence of live oak, which is wanting in the latter, but is plentiful in the former.

All the other islands on this coast of a similar nature, exhibit the same general features; such as Carlines Côte, Grand Côte, Côte Blanche, and Belle Isle. These islands are considered the most healthy parts of the country in which they are situated. This will admit perhaps of some doubt: they are pleasant places of residence, however, the musquito excepted.

Upon the Petite Anse, a salt spring was discovered a few years past, and brought into active operation by the owner of the land. From its proximity, this spring has been considered as merely a drain of the sea; but on inspection, it has all the common features of the salt springs of Louisiana found north of Red river. The water is nearly as much saturated with the mineral as sea water, and yields excellent salt. The adjacent settlements of Attacapas and even Opelousas, have been, in some measure, supplied from this spring with salt, for six or seven years past.

From the dry and porous nature of their soil and their position, there is no doubt but those islands would produce the most luxuriant vineyards. Though environed with morass towards the interior, yet they are all accessible to the gulf by navigable bayous.

PRAIRIE GRAND CHEVREUIL stretches along the east bank of Teche, from eight miles southeast of Opelousas church, to about seven southeast of New Iberia, and is fifty-two miles long with a medium width of two. All the border of this prairie near the Teche is high and fertile soil; the surface declines in receding towards the opposite woods, but even there, much of the land is sufficiently high for culture. Indeed all the land in Prairie Grand Chevreuil, with but little exception, is capable of being cultivated. The settlements that line the woods on both sides of the prairie are numerous,—and we meet with many extensive farms. Cotton and maize are the general objects of culture; and are both produced in large quantities and of excellent quality. The local position of this prairie gives many advantages to its inhabitants;—their proximity to an inexhaustible source of all kinds of timber that the exigencies of their farms can demand, and the convenience of navigation, confer a value on their lands, that raise them above those of other more remote but equally fertile tracts. Besides the entrance by the mouth of Teche, there are as many as five outlets from Prairie Grand Chevreuil to Atchafalaya river; the most remarkable of which are those of Fausse point, Guedry's, and Durald's, all of which have been noticed.

PRAIRIE LAURENT; enclosed between the Teche, Bayou Bourbee, and Bayou Fusilier, lies Prairie Laurent, about eleven miles long and three wide. All the land of this prairie, sufficiently elevated for culture, is excellent soil. There are some very fine farms in this prairie. Cotton and maize are the common objects of cultivation.

Above Prairie Laurent and Prairie Grand Chevreuil, ranging along the Teche, are the small prairies; Petite Bois and Romaine; upon the Courtableau, are the prairies Baré, Alabama, Wickoff's, Carron's, Le Melle's, and one or two more. None of these, except Wickoff's, exceeds two miles in length, most of them about one; but all are extremely fertile. Wickoff's prairie is the termination to the northeast of Opelousas of these natural meadows. Beyond this latter prairie, which is four miles long and one and a half wide, commences a heavy forest, which continues to the Atchafalaya; many parts of which are also covered with an almost impenetrable brake of cane.

It may be expressed in few words, that the high arable plains of Attacapas and Opelousas are bounded south by an impassable morass, to the west by continuous prairies, to the northwest by open dry pine woods, and to the northeast by an annually inundated expanse intersected by bayous, chequered by lakes, or covered with an almost impervious forest, with cane and palmetto brakes.

Between the settlements of Opelousas and those of Avoyelles, about fifteen miles in a direct line from each, occur the hill and prairie of Bayou Rouge. This place is a real curiosity. At a considerable distance from Opelousas, the timber, soil, and surface have a great resemblance to the wood lands in many places within four or five miles of the church of the latter; whilst an annually inundated swamp, totally different from either, intervenes.

Bayou Rouge hill rises abruptly from low lands, covered with cypress, swamp, white-oak, and other trees, indicative of and bearing marks of deep overflow. The surface of the hill is perhaps forty feet

above the level of the circumjacent swamp, rises to its height at once ; of course the crown is a table land. It is about three miles in diameter, being nearly round, and about two-thirds of the surface prairie. The inhabitants are included in the parish of Avoyelles.

From the northeast extension of Bayou Rouge hill, issues a spring of the most limpid water. It would be very difficult to determine whether the spring or the ground from which it flows is the most of a phenomenon. Upon the eminence above the spring, the traveller may be seated at the root of a black-oak, surrounded by dogwood, mulberry, and other trees scarcely ever found, even on the borders of lands liable to be overflowed by the Mississippi, and be within one hundred yards of land, upon which water rests four or five feet deep every spring. It is one of the many instances that Louisiana affords, where the extremes of natural productions touch without mingling. The trees and shrubs of this humbly elevated hill, are as distinct from those of the swamp with which it is every where surrounded, as if the two places were distances the most remote from each other.

The poor remains of the Tonica nation of Indians reside upon this hill. The history of this tribe is short and melancholy. When the French first came to Louisiana in the beginning of the last century, the Tonicas or Tunicas, resided on the bank of the Mississippi below Red river, at the mouth of the bayou that yet bears their name. The Tonicas were always in peace and amity with the French.

In 1718, the French formed an establishment at Natchez, and the persons who formed it were, in 1729, massacred by the Natchez tribe of Indians, who were themselves obliged to abandon their homes, and fly before the French and their allies, amongst whom were the Tonicas. The Natchez took refuge in the then remote, and to the French unknown, banks of the Tensas river, where they remained concealed two years. True to the unquenchable nature of Indian revenge, the Natchez sallied from their hiding place, descended the rivers to Tonica village, surprised and massacred the greatest part of the tribe ; but by this incursion were themselves discovered. The governor of Louisiana marched against them, and finally broke up the nation. Some were killed, others made captive, and a small party escaped and joined the Cadoes.

The Tonicas some time after removed to their present residence, where the remainder, forty or fifty persons, survive to perpetuate the name. They have adopted the modes of culture, and, in some measure, the manners and customs of the French. One or two white families reside amongst them ; and it would puzzle Montesquieu himself, to determine which of the parties have been most influenced by the other. Each cultivates cotton and maize. Their cotton is carried in canoes to Point Coupée by the Atchafalaya and Mississippi.

The timber on the hill is black-oak, white-oak, red-oak, linden, red-elm, sweet gum, poplar (*liriodendron*), dogwood, wild cherry, and ash.

It would be difficult to conceive of a more remote and secluded spot. Surrounded for many months with a sea of water, and out of

the course of any thoroughfare, its inhabitants are almost as detached from the world as if they were in an island of the Pacific ocean.

From the neighbourhood of this hill flows a stream called Bayou Rouge, that enters the Atchafalaya.

Farther south another creek, called Bayou Petite Prairie, flows nearly parallel to Bayou Rouge, and also falls into Atchafalaya. Bayou Rouge enters Atchafalaya about one mile below the head of the great raft in the latter, and Bayou Petite Prairie about ten miles lower down.

There are considerable bodies of excellent land upon each of those two bayous, particularly the latter; but the impediment to navigation created by the raft in Atchafalaya will, it is supposed, prevent their improvement for many years.

The region from Opelousas to Bayou Rouge inclusive, might with much propriety be denominated a country of large timber. It is certainly one of the heaviest forests in the world; and will, at some future time, become of great importance. Amongst other trees whose timber is valuable, there is an immense quantity of very fine white-oak and cypress. The greater part remains untouched, particularly the oak.

Having completed this rapid sketch of the natural features of Opelousas and Attacapas, we may now pass on to their artificial improvements.

Political divisions,—settlements,—towns,—productions.—Attacapas was first discovered and settled by the French about the middle of the last century. When first established, the whole country bore the name of Attacapas, from a tribe of Indians resident in the country. Another tribe, named Opelousas, resided near the head of Teche, from whom that country was named. Some years after the first settlement, when the inhabitants increased, Opelousas was divided from Attacapas and made a separate commandary; in which state the two places remained during the existence of the French and Spanish governments in Louisiana, and for some years after the United States exercised political jurisdiction in the country. The line of demarkation between the two posts from the time of their first separation, began at the mouth of the Mermentau river, ran thence up that stream to the mouth of Bayou Queue Tortue; thence up that stream to its source; then by an imaginary line to the head of Bayou Carrion Crow; thence down that stream to its mouth; thence up to the Vermilion to the efflux of Bayou Fusilier; thence down that stream to its junction with Teche river; thence by an imaginary line east to Atchafalaya river. This limit will no doubt remain permanent: the most part of the distance is marked out by water-courses, and the remainder is known by obvious lines of connexion.

Viewed as natural positions, there is no apparent distinction between Opelousas and Attacapas. From the mouth of Atchafalaya river to the pine prairie in the N. W. part of Opelousas, the intermediate country presents one uniform geological structure, though the local subdivisions vary in regard to climate, soil, and vegetable productions. The minor parts of each of the great portions are more distinct than are the two great divisions themselves from each other.

It is from a conviction of this natural assimilation, that this fine region has been in this work treated of as one connected surface.

Leaving Renthrop's ferry, at the mouth of Teche, and advancing to the Pine prairie, while ignorant of the political territorial divisions, the traveller would consider himself in one and the same country ; he could not perceive any of those marks, " that point out a division in the families of organized existence."

A more rapid and astonishing transition is not conceivable, than between the deep, dark, and silent gloom of the inundated lands of Atchafalaya, and the open, light, and cheerful expansion of the wide spread prairies of Opelousas and Attacapas. This pleasing and really delightful change is amongst the certain items of reward, that every individual will receive, who passes at any season of the year from New Orleans to either Opelousas or Attacapas. After being many days confined in the rivers, exposed to heat, musquitoes, and many severe privations, to pass in a few minutes from this scene of silence and suffering, to an ocean of light, to the view of expanses where the eye finds no limit but the distant horizon, is a delight of which no anticipation can give an adequate idea. To be enjoyed, it must be felt. It is one of the incidents in human life where the pursuit is pain, and the possession pleasure ; where the soft and glowing landscape repays, and cheats not the weary voyager. In an eventful life, the author recalls this amongst the few, the very few instances where recollection of the past does not embitter the present.

The various roads and river routes being delineated, the reader is now to be informed of the means of entering the country. If his progress is by the mouth of Teche into Attacapas, the first object that will claim his attention after landing at Renthrop's ferry, will be the rich banks of Teche, lined with live oak, black oak, sweet gum, and laurel magnolia ; the arable margin narrow, and extending down the Atchafalaya five or six miles below the mouth of Teche. Ascending the latter river to Sorrel's, no great change in the physiognomy or production of the country will be found ;—prairies extending along the river, but very confined in their width, often interrupted by woodland reaching to the margin of the stream.

At Sorrel's the prairie at once expands, and introduces the traveller to the almost interminable savannas that reach from that place to Rio Grand del Norte. Above Sorrel's as far as New Iberia, the Teche retains its distinctive character, though the adjacent country announces the vicinity of other regions. The bend of Fausse point, in its wide sweep, returns again almost to the place of outset, and at Mad. St. Maur's, the sugar cane still endures the vicissitudes of the climate. Here the Teche, retaining the fertility of its shores, turns to the northward.

At the lower extremity of Fausse point bend, stands New Iberia, on the west or right bank of Teche. If elegance of site, or beauty of prospect, could of themselves confer prosperity, no town could have a higher claim than New Iberia. It stands at the head of schooner navigation, in one of the most fertile and best cultivated parts of Attacapas. This village stands upon the extremity of a merely perceptible eminence, which leaving the banks of Teche, pur-

sues a northwest direction, and forms the settlement of Côte Gélé, between New Iberia and the Vermilion river. Though but little elevated above the banks of Teche, the soil of this ridge is essentially different. Crossing, or rather only interrupted by Vermilion, this ridge forms the Penault settlement, west of the latter stream, and turning north, extends through Opelousas, and gradually gaining elevation, becomes, near Red river, hills of considerable height. Schistose sand-stone becomes visible at the base of these hills on the head waters of Bayou's Bœuf and Crocodile. There has been no instance of stone in any considerable quantity being found either on the surface or by digging in any part of Attacapas, or the lower parts of Opelousas.

New Iberia, though situated upon ground twenty feet above the highest floods that can now take place, rests evidently upon alluvial soil. The site of this town is the point of contact between two bodies of land, which though both have drawn their materials from one source, have been deposited at long and distant intervals of time.

The hills are in many respects better adapted to agriculture than the banks of Teche. The former are more rolling than the latter, of course less liable to injury from excessive rains. Between New Iberia and Opelousas church, following the ridge of hills, are some of the best populated, best cultivated, and certainly most pleasant parts of the country. Côte Gélé, Penault, Grand Côteaux, and the neighbourhood of Opelousas church are examples.

It would be entirely impossible to fix any general price to lands in the range of these settlements; so much depends upon situation and other contingencies, that the extremes would be from four or five to forty or fifty dollars per acre. In general the lands here are cheaper than on the Teche; often more so than the real difference in the respective advantages of the two places.

Descending the Vermilion below Côte Gélé, the lands, particularly on the east bank, preserve the aspect of that settlement. The Vermilion differs totally from the Teche. The former flows through low inundated bottoms, the high land seldom reaching the margin of the stream; the Teche contrarywise, having the highest part of its adjacent lands on the immediate bank. Extensive marshes, in the true meaning of the term, are found on Vermilion, and but rarely occur near the Teche, and never on its banks. In reality the Vermilion represents the rivers which flow into the Mexican gulf west of Atchafalaya; the Teche represents the Mississippi and other streams whose banks are formed from recent alluvion. The lands upon Vermilion are, however, extremely fertile, and though the physiognomy of the stream bears a strong family resemblance to the Mermentau, Calcasieu, and Sabine, yet in point of production the soil it waters falls but little below that of the Teche.

St. Martinsville, the present seat of justice for the parish of St. Martins, is the largest town, Natchitoches excepted, in Louisiana west of the Atchafalaya river. It stands upon the west bank of Teche at N. lat. $30^{\circ} 10'$, nine miles by land, and thirty two by water above New Iberia. The ground upon which St. Martinsville is built, is too flat, and the streets are excessively muddy in wet weather.

It is well situated for commercial purposes in the centre of a well cultivated and productive country. The church of Attacapas being placed here, was the cause of the establishment of the town. Under the Spanish government, the churches in the various posts were the places where public business was transacted. This custom has been in most instances perpetuated by the administrators of the American government. In point of situation and commercial facility, New Iberia is certainly superior to St. Martinsville, but notwithstanding all its advantages, the latter has, and probably will continue to prevail over the former.

The division line between two parishes being so near, has also contributed to arrest the progress of New Iberia by taking away the hope of its ever becoming the seat of public business. It is, however, a port of entry, and enjoys the privileges attached to such establishments.

There is no part of the United States, nor even of Louisiana, where towns are of less consequence than in Attacapas and Opelousas. With the ideas formed in Europe or in the northern and middle states of the United States, men can hardly conceive of a country being in a rapid state of improvement without the accumulation of towns. It has been supposed that in many European countries, one person in five, and in all the states of the United States north and east of Philadelphia, that more than one-tenth part of the entire population lived in cities, towns, or villages. And this estimate is made exclusive of the large commercial marts. Whether the slavery of the negroes produces the effect or not, it is a fact, that in all the slave states, towns are comparatively few and small. In a country whose inhabitants are so actively commercial as those of the United States, every section must have a depot. Therefore, a few large cities will exist in every part, but if we may form anticipations of the future from the past, no great number of large cities will ever rise in the state of Louisiana, or the adjacent countries. In Opelousas and Attacapas, so many persons do now, and will probably continue to trade to New Orleans direct, without employing store keepers, that one of the chief sources of the increase of towns is considerably less in these places than in the northern and middle states.

Every traveller who attentively reviews the objects before him, will be struck with the great disparity between the towns and farms of all the slave states; but in none so much as in Louisiana, New Orleans excepted. Many have attributed this effect to the principles of the Spanish government; but the conclusion is unfounded. Mexico and Peru have as many, if not more large cities, in proportion to the population of those places, than the United States have. After stating the fact, we may leave the theoretical deductions of the cause to those who have more talent and leisure, and continue our subject.

Above St. Martinsville there are no more towns in Attacapas. The country is thickly settled upon both banks of Teche, upon the Vermilion, and the intermediate streams. Cotton is the great staple and object of cultivation. The soil is every where well adapted to the growth of that vegetable. The production, in proportion to the effective hands employed, is, perhaps, as great as in any part of the

state. The advantage of cultivating prairie land is here completely enjoyed. Though the culture of the soil has advanced within a few years past with great rapidity, yet the surface, when compared with the population, is still so great as to leave an almost unlimited choice of ground for tillage. A custom prevails here that could be practised only in such countries; that of changing the enclosures every three or four years. As land becomes of more value by increase of people, this usage will of course be laid aside; it is now of very great service to the planters, by releasing them from one of their greatest enemies, the crab grass.

The value of land is generally the first question made by a traveller, and it is one to which no definite answer can be made, respecting any section of the United States. A general comparison is always safe, and made with facility, between two places which produce respectively staples differing in a considerable degree in value. Lands where sugar can be made, will bear a higher estimation than those where only cotton can be produced. Therefore, every thing else equal, the landed property of the inhabitants of Attacapas below St. Martinsville, is of more value than that claimed to the north of that town.

How far north the sugar cane can be cultivated, is an inquiry of very deep interest, and it is one of the many subjects where the human mind is extremely liable to deception. From the great difference in value, every landholder grasps with avidity at a prospect of changing his cotton into sugar lands.

Nothing but experience can decide this question, and without any particular cause of suspicion against individuals, emigrants ought to be very cautious of implicitly believing in flattering pictures, drawn by persons interested in deceiving others, and from their avidity very liable to be deceived themselves.

Cotton being a vegetable capable of attaining the developement of its growth on almost all lands, and in all climates of the United States below the thirty-fifth degree of north latitude, every emigrant is safe in forming calculations upon its culture, in the states of Louisiana, Mississippi, and the territory of Alabama. In Darby's Louisiana the ground upon which sugar can be made is laid down. The data are drawn from what has already been effected, and from vegetable analogy. In this work it has been shown that where snow is known to fall frequently, the possible beneficial culture of the sugar cane is doubtful. It has been also established, that heavy snows are frequent at the church of Opelousas. It may be also remarked, that the live oak tree ceases also where, or very near where, snow commences. In some places the existence of the live oak is supposed to be influenced by proximity to the sea. The correctness of the remark, doubtful in all places, is demonstrably erroneous in Louisiana and Alabama, where this tree grows at very different distances from the shore of the gulf of Mexico.

We have been the more careful in calling the attention of the traveller to the subject of vegetable associations, from a thorough conviction, that from this source may be drawn some of the most valuable facts that can interest the student in statistical inquiry. It is a

mean of acquiring accurate knowledge of a country, that if judiciously pursued, cannot deceive. It is a safeguard against deception that ought never to be neglected. And what renders its precepts the more valuable, they are written in a language that never needs an interpreter, "he who runs may read."

Besides the vegetable staples in Opelousas and Attacapas, those places have another source of revenue in which they are perhaps unrivalled,—the rearing of cattle. There are many parts upon the Mermentau, Calcasieu, and Sabine, where this pastoral commerce will perhaps be perpetuated as long as the present order of things continues in the world. It would be difficult to conceive the possibility of any country being more completely adapted to the rearing of cattle than are the prairies along the waters of the Opelousas. So much are men prone to adopt what best suits their peculiar situation, when left free to follow the bent of their own desires, that common custom in such cases is the best test of propriety. From the first establishment of the post, the production of cattle became the chief pursuit of the people of Opelousas and Attacapas; but as the settlements progressed, and particularly since the establishment of the American government, wherever the soil was productive, agricultural has superseded pastoral labour. So much however of the lands to the westward of the water courses communicating with the Teche, are naturally sterile, flat, and incapable alike of present culture or future improvement, that the region seems pointed out by nature as the meadow lands to supply with beef, butter, and cheese, the inhabitants of the productive banks of the Mississippi and its intermediate streams.

The city of New Orleans and its vicinity are supplied with beef, tallow, and butter, from these savannas. Many of the richer planters on the Teche, Vermilion, and other agricultural districts, have stock farms, or as they are termed in the country, "vacheries," established upon the Mermentau, and Calcasieu. The cattle is guarded by men employed for that purpose, who have, in most cases, as their reward, a stipulated share of the increase. These stock herds have also the use of all the milk and butter they choose to make for their own use. To families who remove into the country, and whose finances are not very ample, no situation could be more eligible than having the use of one of these vacheries. It is, however, a life of severe activity. The lives of the men who guard the flocks of this country, may be said to be spent on horseback. It is also a pursuit demanding considerable skill in the peculiar management of its details. There is no application of the hands of mere common working men, where so much profit is drawn from the same labour. Three or four active men, with about double as many tolerable good horses, will manage a stock producing annually from three to five hundred calves. The fifth is the common reward of the keepers. This would yield from twenty-five to thirty calves to a single hand. Four years old heaves, the ordinary age at which they are sold, will yield from fifteen to twenty dollars per head. It will appear obvious from this statement, that, though the emolument will accumulate slowly at first, its ultimate result is very considerable. In most instances, where the essay has been made with due exertion and ordinary prudence, the reward was am-

ple. In that, as in too many other cases, particularly in the southern states, many persons seek the business as a situation of ease and idleness; and succeed accordingly.

Most of those, however, who are employed on these pastoral farms, are either slaves, or of men particularly known to the owners of the cattle. They are generally a hardy, active, class of men; and certainly, are amongst the best horsemen in the world. The rapidity and skill of their movements are justly subjects of an admiration, which is often heightened by the docility and sagacity of their horses.

The cattle, horse, and modes of managing, both came into Louisiana from the Spanish provinces in North America. The race of the domestic cow, so greatly multiplied in Opelousas and Attacapas, is high, clean limbed, and elegant in its appearance. The horses are from the Andalusian, or Numidian race: they are, like their ancestors, small, compactly built, and inconceivably durable. Many of them are active in a high degree: and though inferior in size, strength, fleetness, or beauty, to the English race of horses now general in the United States, they are, nevertheless, greatly superior in every essential quality necessary for the severe service they are made to perform.

The cow yields much less milk, and of inferior quality, in all the southern parts of the United States, than in those more northern. This effect, generally acknowledged, has been ascribed to the greater richness of the pastures of the latter. How far this induction is correct, we are unable to determine, but feel inclined to consider this like every other operation of the laws of nature, who makes nothing in vain. Milk, though appropriated by man to his use, was formed to feed the young of the animal by which it is produced. Where abundant and succulent herbage every where abound, there is less occasion for the milk: consequently, upon the plains of Louisiana and Texas, the pendant udder, and high boned, lank, and hollow appearance of the northern cow, is never seen. The cow of Louisiana and Texas has a vivacity and alertness that would almost bespeak them specifically different from the dull, phlegmatic animal of the same genus in more northern climates.

The flesh of the cattle killed upon the prairie is often excellent. The feeding or salting of their stock is entirely neglected by most of the owners: the benefits arising from greater attention have, however, exhibited themselves wherever an experiment has been made. Though abounding to overflow in summer and autumn, the pastorage is generally destroyed by frost in winter, to nearly the coast of the gulf of Mexico. Nothing can demonstrate more strongly the low temperature of the climate of Opelousas, Attacapas, and all the country to the westward of those places on the gulf of Mexico, than the annual destruction of the grass by frost.

There are two very distinct species of the *arundo*, or large reed cane, growing in southern Louisiana; the *arundo gigantea*, and the *arundo aquatica*. The former is the most hardy of all the grasses, and resists the action of frost in regions more rigorous than any part of the states of Louisiana, Mississippi, or the territory of Alabama

and province of Texas. The *arundo aquatica* is unknown in the higher parts of the country: it is found to form large brakes upon the banks of the Mississippi below Fort St. Philip, and upon the shores of all the other streams to the westward whose banks are low. The *arundo aquatica* forms a beautiful border never extending more than forty or fifty feet from the water edge. This *gramén* is extremely susceptible of decomposition by frost. When the author was at the mouth of Sabine in the winter of 1812-13, he arrived at the head of the lake near the 30° N. lat. on the 20th of December, and found the *arundo aquatica* still untouched by frost: but in the nights of the 21st and 22d, very severe frost destroyed the cane entirely: and in less than one week afterwards, the stalks appeared dry and parched as if blighted by fire: the ground was frozen, and the small ponds covered with ice: the weather was, indeed, severe, beyond what could be expected in that latitude.

The other lesser *gramina* are still more tender than the *arundo aquatica*, and of course submit to a light frost, that would be resisted by the latter. The prairies below 30° N. lat. has often the dry stubble-like aspect of fields from which the grain has been cut. In such cases the cattle and horses suffer: but when to the ruin of their food, is added snow and sleet, which is often the case as low as 30° 30' N. lat. the situation of the poor exposed animals is really pitiable. In the months of January 1800, 1807, and 1812, snow fell at Opelousas of considerable depth and duration. The storm of 1807, though it occasioned less snow, was much more destructive to the cattle than that of 1812; the former was attended with a keen N. W. wind, commenced with cold rain followed by sleet, and terminated with snow: but the residue of the month and part of February, gave very warm pleasant weather. On the night of the seventh of February, another severe frost set in, attended with clear calm weather. The latter frost was so intense as to freeze the ponds, and other stagnant waters as low as the gulf of Mexico. The spring was rainy till the middle of March, when the season changed to dry and warm.

A phenomenon ensued the storm in January, that staggers the credulity of many persons. No injurious effects upon the cattle were perceptible for some time, but suddenly they were found to be dying by thousands. The malady had all the appearance of a real pleurisy: the cattle were not reduced much in flesh, but fell and died in a few hours. Those which recovered, were weak until late in summer. The swine seemed also affected in the same manner. It was thought by many persons, that one-fourth part of the stock of horned cattle in the country perished. The horses and mules escaped. Some of the old inhabitants observed, that a similar fatality had occurred once before in their recollection, preceded also by severe frost.

If making of hay, and providing shelter for stock in stormy weather, were to become general objects of rural economy, there can be very little doubt of an ample pecuniary recompense being the consequence. Whilst the wide spread prairie gives such abundant summer range, provision for winter will be neglected.

Whether sheep could be reared in Opelousas as profitable on account of their wool, has never been ascertained. Most of the plant-

ers have some sheep; but the quality of the wool is generally coarse: the mutton is excellent. How far the wool could be improved by the introduction of other breeds, remains open to experiment.

As far as pasturage and the climate are concerned, there is no reason to doubt but sheep could be multiplied to any supposable extent. The dry pine tracts that seem to forbid attempts at agriculture, might probably be beneficially employed as sheepfolds.

From the review we have given of the temperature of the climate, and the operation of frost, the reader will be able to form a reasonable estimate of the probability of success in the cultivation of the vine and olive, in Opelousas and Attacapas. The essential difference in the respective climates of the basin of the Mobile, the valley of the Mississippi, and the extensive prairies of Louisiana and Texas, has also been exhibited. It will be seen that the line of climate does not correspond with the parallels of latitude. Though the 33° N. lat.* has been correctly assumed as a general line of demarkation between the climates of this continent, yet the regions near the delta of the Mississippi show a deviation from this boundary. A line drawn from the junction of the Coosa and Tallapoosa, to the mouth of the Sabine, would very nearly follow the course of the intermediate climates, with the exception of that part intersecting the Mississippi. Within fifteen or twenty miles from that great river an indentation exists, carrying the cooler temperature of the more northern regions 12 or 15 minutes of latitude farther south.

When treating of the olive tree,† it will be shown how far any of the countries previously reviewed will suit the growth of that tree.

It would swell the subject beyond its comparative share of attention, to give in detail all that could be repeated respecting Opelousas and Attacapas. The following table exhibits the most important vegetable productions of this interesting country. A professed botanist would find the eastern part of Opelousas, in relation to the objects of his research, one of the most rich and productive regions on this globe, particularly in forest trees. Of all the species of trees mentioned in the following list, the Buckeye and Papaw excepted, the largest individuals ever seen by the author, were found between Prairie Bellevue and the hill of Bayou Rouge; the most remarkable of which are the *quercus tinctoria*, *quercus macrocarpon*, *cupressus disticha*, *liriodendron tulipifera*, *juglans nigra*, *juglans aquatica*, and *laurus sassafras*.

Acer rubrum,
Acer negundo,
Andromeda racemosa,
Annona triloba,
Betula lenta,
Bignonia catalpa,†

Red flowering maple,
 Box elder,
 Sorrel tree,
 Papaw,
 Black birch, on Mermentau,
 Catalpa,

* See page 31.

† See chap. iv.

‡ This tree appears to be an indigenous tree in the eastern woods of Opelousas, where it grows in almost all kinds of soil. The extreme durability of its wood and its rapid growth, have contributed to give it high estimation amongst

Carpinus ostrya,
Carpinus Americana,
Castanea pumila,
Celtis crassifolia
Cerasus caroliniana,
Cerasus virginiana,
Cornus florida,
Cornus alba,
Cupressus disticha,
Diospiros virginiana,
Fagus sylvestris,
Fraxinus tomentosa,
Gleditsia triacanthos
Gleditsia monosperma,
Ilex opaca,
Juglans amara,
Juglans aquatica,
Juglans laciniosa,
Juglans myristaciformis,
Juglans porcina,
Juglans nigra,
Juglans squamosa,
Laurus sassafras,
Laurus benzoin,
Laurus caroliniensis,
Liluidambar styraciflua,
Liriodendron tulipifera,
Magnolia glauca,
Magnolia grandiflora,
Morus rubra,
Nysa aquatica,
Nysa sylvatica,
Pavia lutea,
Pinus rigida,
Populus angulata,
Platanus occidentalis,
Quercus alba,
Quercus aquatica,
Quercus falcata,
Quercus ferruginea,
Quercus lyrata,
Quercus macrocarpa,
Quercus obtusiloba,
Quercus pbellos,
Quercus rubra,
Quercus tinctoria,
Tilia pubescens,

Iron wood,
 Hognbeam,
 Chincapin,
 Hackberry,
 Laurier almond,
 Wild cherry
 Dogwood,
 Swamp dogwood,
 Cypress,
 Perarimon,
 Beech,
 Common ash,
 Honey locust,
 Water honey locust,
 Holly,
 Bitter-nut hickory,
 Water hickory,*
 Thick shell bark hickory,
 Nutmeg hickory,
 Pignut hickory,
 Black walnut,
 Shell bark hickory,
 Sassafras,
 Spice wood,
 Red bay,
 Sweet gum,
 Poplar,
 White bay,
 Large laurel,
 Mulberry,
 Tupeloo,
 Black gum,
 Buckeye,
 Pitch pine,
 Cotton wood,
 Sycamore,
 White oak,
 Water oak,
 Spanish oak,
 Black jack oak,
 Swamp white oak,
 Overcup oak,
 Post oak,
 Willow oak,
 Red oak,
 Black oak,
 Downy linden,

the planters. The catalpa is now planted extensively in Opelousas, and is used for posts, bournes to the land, and other purposes demanding timber of long duration.

* This tree bears, in Louisiana, the name of bastard paccan.

EMIGRANT'S GUIDE.

41

Ulmus Americana,
Ulmus rubra,
Ulmus aquatica,

Mucilaginous elm,
Red elm,
Swamp elm.*

To the above may be added an indefinite variety of vines and underwood; such as Spanish mulberry, prickly sumach, muscadine grape vine, white wood,† pond wood,‡ white thorn, blackberry briar, dew berry, several species of the smilax, and many others.

On the banks of the streams immense brakes of *arundo gigantea*, (great cane,) and on the outer margin of the cane, the palmetto or *lantan* (*chamaerops Louisiana*.) fill the slope between the cane and the dead overflow.

The cane, though found near, cannot exist upon land where its roots are subject to long and repeated immersion. The palmetto can support inundation a longer time and deeper than the cane, but perishes also where considerable bodies of water rest upon the ground where it grows. However flat the land may be where either of these vegetables is found, their presence affords a natural proof of the possibility of cultivating the land, and of the excellent quality of the soil. Considerable spaces in Opelousas that are now considered of no value, must, one day, and that at no very distant period, become some of the finest parts of the country.

Province of Texas—though justly claimed by the United States' government as part of Louisiana, yet as no attempt has been made to carry that claim into effect, the local Spanish authorities have been respected. A contestation subsisted between France and Spain respecting the demarkation between their respective limits during the time that elapsed from the landing of La Salle at the mouth of the Guadalupe, in 1683, until the ratification of the treaty of 1762, when France ceded Louisiana to Spain.

In the Appendix to Darby's Louisiana, first edition, and the first chapter to the second edition, may be seen the respective epochs at which were made the various discoveries and settlements in Texas and Louisiana. From these documents it will appear that the Spanish officers first passed the Rio grande del Norte in 1714; almost thirty years after the expedition of La Salle.

It was almost at the same time, 1717, that the French arrived at Natchitoches, and the Spaniards at the Adayes, nine miles distant from each other, and which respective posts were maintained from that time to the transfer of the government of Louisiana to the United States. After the establishment of the Spanish government in 1769, no change was made in the posts. Natchitoches was continued a commandary of Louisiana, and the Adayes of Texas. But the regulations of convenience adopted or perpetuated by the Spanish government cannot prejudice the just claim of the United States.

As a country, Texas is very far from being equal in fertility to the regions included in the valleys of the Red and Mississippi rivers.

* This tree is named by the French *olivier*, or olive, from the form of its fruit, which bears a great resemblance to that of the real olive.

† This species of the elm grows to a very large tree, and is probably a non-descript.

‡ These two dwarf trees are non-descripts, and always growing on low land.

The climate is remarkably temperate for the latitude. A great part consists of open plains exposed to the winds of the north, and the atmosphere is cooled considerably lower than the places on the same parallel more to the eastward. Though uninviting in an agricultural point of view, the position of Texas renders it an object of serious interest to the people of the United States. Few are prepared for the moment when either the west or east border of this country must become a vast frontier between two powerful and independent nations. When urging the value of Texas to the United States, it is frequently observed that the territory of the United States is already sufficiently extensive. If the observation was founded upon political wisdom, it would apply much more forcibly to Spain, whose dominions are more extensive and less peopled than those of the United States; but in reality it is a sophism when applied to any country. It is easier to conceive of a nation being too condensed than over-extended; of having too little rather than too much land. Extent of territory cannot be any great inconvenience to a people, whose relative position is similar to that of the United States.

Independent, however, of all other considerations, the claim of the United States to Texas ought to be insisted upon from political reasons. Some of the best harbours in the gulf of Mexico are to be found between the Sabine and the Rio grande del Norte. Entirely independent of all the local arrangements of either government, the people of the United States and Mexico are increasing in a very rapid manner. Though the distance that separates these two great masses of men from each other is yet considerable, it is every moment becoming less so. If a retrospect be taken of the progress of human society in North America during the last century, a pretty good idea may be formed of its advance in the present.

In the year 1717, exactly one century past, New Orleans was founded. At that epoch there was not perhaps 500 white inhabitants in the valley of the Mississippi. There are now near two millions. It is in reality in the last forty years that the astonishing revolution has taken place, by which such an immense mass of intelligence has supplanted savage barbarism.

If under so many disadvantages, and so small a fund, the people of this continent have increased so much, what will be their advance upon the basis of their present population? We must not suppose that the people of Mexico and the internal provinces are stationary. The fact is far otherwise. From the best documents, it appears that the people of the Spanish North American possessions exceed nine millions, upwards of seven millions of whom are in Mexico and the internal provinces. The people of the United States now amount to about nine million. For a period of seventy years past, the people who now compose the United States, have more than doubled in every twenty-five years. Should a similar increment accrue in the same ratio during another century, then will the people of the United States, in 1917, amount to eighty millions; and allowing the people of the Spanish colonies, in North America, to double in thirty-five years, and supposing them now nine millions, their population, in 1917, will be upwards of fifty millions. Taken together, the continent will then

be peopled with one hundred and thirty millions, exclusive of the Canadas and other British settlements, which will contain perhaps ten or fifteen millions.

This increase, though apparently so enormous, is really less in proportion than what has actually taken place since 1717, under circumstances at least as unfavourable as any that can reasonably be expected in the next equal period of time.

It will be shown, in the sequel to this work, that the arable surface of North America, exclusive of mountains, rivers, lakes, frozen tracts, and other uninhabitable places, exceeds seven millions of square miles; consequently, when inhabited by one hundred and fifty millions of people, it will give only twenty to each square mile. Like other nations, the mass will be unequally dispersed in America.

Viewing a map of North America, and the local situation of its present inhabitants, every person must be struck with the propriety of making the Rio grande del Norte the limit between the United States and the Spanish provinces. This river is in itself of very little consequence, and the land it waters sterile; it is a long continuous stream with few branches, and in proportion to its length, having but little water. A dense population cannot exist upon its banks, therefore many of the causes that lead to national contests will be removed. If there were no title upon which the United States could found their claim to Texas, still sound policy ought to induce Spain to establish a boundary traced by the hand of nature; a boundary over which either nation would have few inducements to pass. That the passions of men will engender wars on this continent, as the same cause has produced similar effects every where else, we cannot doubt; but the origin of political disputes may be in great part removed in the case before us.

Texas cannot become an immediate object of attention to emigrants; its territory is not yet politically under the authority of the United States, and countries superior in soil, and agricultural and commercial facilities, are open to settlement. A detail of the relative positions and natural productions of a region that must remain for ever the frontier of the Anglo American population of this continent, cannot however be uninteresting.

Texas is bounded west and southwest by the Rio grande del Norte; southeast by the gulf of Mexico; east by the state of Louisiana; and northeast and north by Red river. Its greatest length is, from the mouth of the Rio grande del Norte to the sources of Red river, about eight hundred miles; its greatest breadth from the N. W. angle of the state of Louisiana, in a S. W. direction to the Rio grande del Norte, five hundred miles. Estimated by the Rhombs on Melish's map, Texas extends over two hundred and forty thousand square miles; or as extensive as New-York, New-Jersey, Pennsylvania, Maryland, Virginia, Ohio, and Kentucky.

The climate must vary considerably; the mouth of Rio grande del Norte is in $25^{\circ} 55'$ N. lat.; the head of Red river is in 37° N. lat. According to the information derived from General Pike, on the high table land upon the head waters of the Red and Arkarsan rivers, the cold is excessive. This respectable testimony needs no farther au-

thority to give it credence; but if it did need corroborative proof, that proof is afforded by the low temperature experienced on the shores of the Mexican gulf.

Though taken as a whole, Texas cannot be considered a fertile country, yet on so vast an extent there are many very fine tracts. Red river will no doubt admit of settlement along its whole length. The same may be said of several of the other streams; and though this population cannot be very compact, yet the individuals that compose it may be free and happy. The air of this region is, according to every account yet made public, pure, serene, and in the highest degree healthful.

The pursuits of the people of the interior of the country will be, it is most probable, for ever pastoral. The soil, the want of wood in many places, and remoteness from large commercial ports, will all combine to perpetuate the present order of things in that extensive, and in many respects delightful country.

In point of geological structure, Texas is remarkably regular. Resting upon the Rio grande del Norte as a base, the country lies in the form of an immense triangle, all the rivers conforming to each other in an astonishing degree. Red river, and the Rio Grande on the two opposite sides, have great resemblance to each other in their courses and particular bends. The intermediate streams, for some distance from their sources, flow southeast; when gradually turning south they pursue that course to the gulf of Mexico. In this manner flows the Nueces, Gaudaloupe, Colorado, Brassos à Dios, Trinity, Sabine, and Calcasieu. The sources of the Mermentau being too far south to admit its conformity to the foregoing streams, its course is south nearly. The Calcasieu and Mermentau are neither in Texas; their names are mentioned here to afford examples of the regular formation of the country bordering on the north shore of the gulf of Mexico.

We will close this chapter with a review of the N. W. section of the state of Louisiana. It is within five or six years past that much of this country was discovered. This may seem almost incredible, but it is really a fact, that, in 1811, considerable streams that flow into Red and Ouachitta rivers, were unknown, except to a few hunters. If this had been the case with rivers remote from the Mississippi, the chasm in geography would not have excited surprise; but it is certainly astonishing that such water courses should be unexplored, as the Derbane, Saline of Ouachitta, Saline of Red river, Dacheet, Bodcau, Black Lake river, and the Dugdomini, all in the neighbourhood of long established posts. A glance at Lafon's map of Louisiana, published in 1805, will enable any person acquainted with the real features of the country, to perceive how utterly the country upon Red and Ouachitta rivers were unknown at the epoch of the publication of the foregoing map.

The government of the United States commenced surveys in Louisiana west of the Mississippi and Atchafalaya rivers in 1805,* but did not extend the operations of surveying to the north side of Red

* See page 7.

river until 1813.^r The author of this treatise assisted in performing surveys on each side of Red river under the authority of the United States; and in addition, made extensive surveys, on his own account, of many places not embraced by the work done by order of the general government, and traversed repeatedly the hitherto most imperfectly known parts. These circumstances are mentioned here in order to apprise the reader of the means taken to procure correct information of this valuable country.

The N. W. section of the state of Louisiana, is bounded east by the Mississippi; north by the northernmost part of the 33° N. lat. north; by a meridian line due south from the 32° to 33° N. lat. west; by the Sabine river southwest; and by the 31° N. lat. or Opelousas, south. This section extends over 21,700 square miles, including the parishes of Natchitoches, Ouachitta, Ocatahoola, Concordia, Rapide, and Avoyelles.

Natural features—Rivers—Lakes—and Mineral Productions. The principal rivers of the N. W. section of the state of Louisiana, are, Sabine, Red river, Ouachitta, and Mississippi.

The Sabine is a small and unimportant stream where intersected by the 32° N. lat.; this place is evidently within no very great distance from its source. When examined by the author in November, 1812, the river was excessively swollen by rain, and yet appeared small and narrow. As was the case in almost every other instance, no precise information could be obtained respecting this river except by actual observation. The author commenced a traverse at the town of Natchitoches on Red river, and measured the several courses between the latter and Sabine. From a wish to include the then vaguely known settlement of Bayou Pierre, the traverse was extended northwest along the overflowed lands of Red river, as high as 32° 10' 21" N. lat., and then curved to the Sabine. By this means the creeks, lakes, and settlements, N. W. of Natchitoches were delineated upon Darby's large map of Louisiana.

After departing from Natchitoches towards Sabine, the country is found to be hilly. The prevailing timber, pine, black oak, sweet gum, and various species of hickory. This description of country continues ten or twelve miles, where, in following the road to Nacogdoches, pine becomes more abundant, and other timber less in quantity. After passing the western extremity of Spanish lake, the foregoing traverse was continued nearly N. W. as has been observed, along the margin of the overflowed lands of Red river. In this range the pine ceases almost entirely, and is followed by oak and hickory woods. The country is extremely broken, and often stony. The hills are not very elevated, but steep. The bottoms are often fertile, though not very extensive.

A number of streams of very limpid water flow from the hills into the lakes of Red river; and, amongst others, is Bayou Pierre, so called from the settlement of that name. The streams are all short in their courses; none exceeding twenty-five miles in length. Black hickory may be considered the prevailing timber. Some extensive flats of post oak (*quercus obtusiloba*) exist, and where this tree prevails, the land is poor and wet.

The dividing ridge between the Sabine and Red rivers, preserves at this place nearly an equal distance from each stream; the streams respectively flowing in opposite directions; those of Red river, N. E.; those of Sabine, S. W. After leaving the settlement of Bayou Pierre about eight miles to the west, pine again occurs in great abundance, interspersed with black-jack ridges. The country is very broken, poor, and on the hills sandy and rocky. Here is seen a phenomenon often beheld in Louisiana. Some of the creeks are fine clear streams of water, whilst others have their channels dry, except when supplied by rain. There is nothing peculiar in the country to point out the reason of the difference.

Upon some of the streams are large quantities of a species of maple, having the external appearance of the *acer nigrum* of Michaux. This tree is very scarce in all lower Louisiana, and utterly unknown in any part south, of the place under review. It is here found in its usual company, the beech, black oak, white oak, and ash. Whether this maple is really the *acer nigrum* (black sugar tree,) of Michaux, or a non-descript, remains undetermined.

Enough of the bottom land of this region is fertile to admit of extensive settlement. The timber is very large and excellent. Approaching the Sabine, no very perceptible change in the general appearance of the country takes place. The surface of arable land, perhaps, is something more extensive. The eastern side of the Sabine in all its length, from the 32° N. lat. to the gulf of Mexico, is low, and more subject to overflow than the western. A ridge of hills winds along the western shore of the Sabine, often projecting precipitous ledges of sand stone rock, over the stream. In no one place does a bluff reach the river on the east side. The rock is all perfectly horizontal, and of one species, bluish friable sand stone. There are few indications of metals, none of either lime stone or mineral coal. At a distance from the river, in the creeks and even on the highest hills, occur pudding stone, with petrified wood, often imbedded in the mass. Rounded siliceous pebbles are scattered over every part, and often form the body of the hills.

The general timber upon the Sabine is composed of pitch pine, black oak, red oak, white oak, black hickory, sweet gum, black gum, ash, beech, and dogwood. Cane is abundant upon the margin of the river, but does not extend far from the stream, and is generally of small growth.

Receding from this place towards Opelousas, pitch pine gradually encroaches upon the other trees; and below 32° N. lat., to the prairies on Mermentau and Calcasieu, may be termed a pine forest, except the margin of the streams; and even there the pine often reaches to the water. This is frequently the case with the Sabine, whose banks are at intervals clothed with an unmixed pine wood.

Above 32° N. lat. the country maintains the character pointed out upon the traverse ran by the author, until merged into the great prairies towards the Panis villages.

Red river enters the state of Louisiana in one undivided stream, and flows southward into the state about thirty miles by a direct course; then spreads out into a number of channels and lakes, forming an innum-

dated swamp six miles wide and fifty long. This overflowed tract in Red river, may be strictly called the commencement of its delta, as, in strictness, the river never does again unite in one continuous stream. The breadth of the overflowed land has been much overrated. The author measured the high lands along both banks, from the town of Natchitoches to $32^{\circ} 55'$ N. lat., and determined by actual survey the length and breadth of the inundated part. The aspect of the country above Natchitoches on the eastern, is greatly superior to that near the western side of Red river. The bottoms on the creeks are more extensive, and of better soil, than are those towards Sabine. The hills, though much more elevated, are more gradual in their elevation.

At low water this inundated country is an assemblage of islands, between the various lakes and channels, but at the season of high water, all the low lands are covered and become one great lake. It will be obvious to any person who visits the country and observes the objects presented by nature attentively, that the present situation of things in the delta* of Red river is of recent origin. In all the large lakes, the remains of the cypress tree still appear to attest the ancient state of the country. In Natchitoches, Spanish, Black, Bistineau, and Bodcau lakes, the ruins of the cypress tree are abundant. The cypress, like all other trees, perishes whenever its roots are immersed in water throughout the year. The timber of this tree resists the combined action of air and moisture longer than any known wood, and for this reason their stems now remain in these lakes perhaps ages after the other trees that formerly grew in the same places have fallen and mouldered away.

It would appear that Red river had gradually deposited alluvion sufficient to fill up the valley through which it ran, above the level of the bottoms of the creeks that entered from each side. No creek enters Red river below the commencement of this inundated tract, but which forms lakes previous to entering the main stream. In this manner has been formed all the lakes near the river. Many of those lakes have ten or fifteen feet water in the driest seasons, where once grew a forest.

There is no direct channel remaining through the alluvial tract from its commencement to the Grand Ecor, four miles above Natchitoches. It is not without considerable difficulty that boats can be piloted through, and only at high water can pass. Many parts of the various channels are choked with trees. There is not, however, as generally thought, any continued raft. No floating timber can now escape through this labyrinth, and the circumstance affords positive evidence

* As this term frequently occurs in this and other works on Louisiana, it may not be improper to give its explanation. The estuary of the Nile was called by the ancients, from its resemblance to the Greek letter Δ , delta. This was tolerably appropriate when applied to the Nile, but could not apply to other rivers whose mouths formed lands of very different outlines. It is now used to designate the alluvial tracts formed by the abrasion of the waters of any river, whose streams carry down, and deposite great bodies of sediment near their mouths. Adopted in this manner, the term delta serves to point out a distinction between two classes of rivers; those which, like the Nile and Mississippi, produce bodies of land, from those which, like the Delaware, Susquehanna, and Plate, have wide bays for their estuaries.

that the period cannot be very remote when the river was absolutely closed. Red cedar is very plentiful on Red river above the state of Louisiana: logs of this tree are found lodged in the banks of Red river near Natchitoches, but none now come down the stream. The cedar is frequently found on the banks as low as Alexandria at the Rapids. Its present existence is no doubt to be attributed, like that of the cypress, to the great durability of its wood.

Between Grand Ecor and the town of Natchitoches, most of the stream of Red river is again re-united. This is, however, the case only at low water when the river is swelled by spring floods: several outlets flow from the main stream between Grand Ecor and Campté. These outlets flow into Black lake and Saline rivers, and finally join Red river again by the stream of Rigolet de bon Dieu. Several outlets leave the Rigolet de bon Dieu, and flow into the Hietan river; and before the latter joins Red river the outlet of Bayou Rapide leaves that stream from the right shore. The water only enters this latter outlet at high water. When all the rivers are low, Hemphill's creek, that enters Bayou Rapide, presents a curious spectacle to the traveller. The water of Hemphill's creek is very limpid, and immediately on falling into the channel of Bayou Rapide divides; one part flowing south joins Red river at the town of Alexandria; the other north, into Red river below Gilliard's plantation. Out of Bayou Rapide several outlets flow, forming by their junction Bayou Bœuf; which in its turn contributes with Bayou Crocodile to form Courtableau river, in Opelousas.

In the peninsula between Red and Ouachitta rivers, rise several small streams, part of which fall into the latter, and others into the former. Of those which unite with Red river, the principal are Bodcau, Dacheet, Black lake, Saline, and Hietan rivers; the tributaries of Ouachitta are Derbane and the united streams of Dugdomoni and Little river, entering Ouachitta under the name of Ocatahoola river.

Upon all these streams the land presents great sameness: the soil and timber are, in the particular, relative positions, very near specifically alike. The approximation of the earth to the surface of a real sphere in all Louisiana, is proved by the distance to which those foregoing rivers are rendered stagnant by the elevation of the Mississippi in spring floods. The streams at low water flow with considerable velocity; but when the Mississippi and Red rivers are swelled by spring floods, the valleys of their tributaries are rendered completely stagnant almost to their sources. The country is hilly, but does not appear to rise gradually from the level of the ocean, but to stand upon a plain.

Indications of iron are almost every where visible. The hills rest upon sand stone slate. Rounded pebbles form in many places the incumbent stratum. Salt springs* are frequent upon all the streams

* No term is more frequent than that of salt spring: it has been used by the author from respect to common usage; whilst he is conscious, that correctly speaking, no such thing as a salt spring exists. In all places where salt (murians of soda) is found in the interior of this continent, its presence is known by sandy flats similar to the beaches of a river. From the frequency of salt upon the earth's surface in the valley of the Mississippi, and also from that mineral

between Ouachitta and Red river inclusive. Two or three of those springs are in operation, the principal of which are Postlethwait's works on Sabine and Red river. At the place where this manufactory is established, any quantity of salt might be made, that the exigencies is of the neighbouring country could demand. The inhabitants of Natchitoches, Rapides, and other settlements in the vicinity, are now supplied with excellent salt from one to two dollars per barrel. Upon Ouachitta and Dugdomoni are salt springs equally capable of production with that wrought near Natchitoches. As the population increases, these repositories of one of the most necessary minerals will be opened, and their stores distributed for general use.

A reference to the table facing page 9 of this treatise will show the present very inadequate population, and the great disproportion between the land claimed and settled by individuals, and that yet held by the government of the United States. In respect to landed property, there is an essential difference between the north and south sides of Red river: in the parts of Louisiana in the latter section the best of the soil is alienated to individuals; in the former, the far greatest part of the surface and much of the best land remains yet vacant.

This is peculiarly the case with an extensive and very fine body of land upon the creeks that flow into Dacheet river and lake Bistineau, and also upon the waters of Derbane, Black lake, Little river, and Saline rivers west, and upon the Tensaw Magon Bœuf and some smaller streams east of Ouachitta.

The lands east of lake Bistineau, upon the creeks that enter that lake, and upon the margin of the lake itself, are of a mixed character. The bottoms are often wide and the soil of excellent character. In this place are the only arable parts in Louisiana of that species of land known in the northern states as bottom land. The alluvial banks of the Mississippi and its enterlocutory streams, though composed of similar materials, present an aspect very different from that kind of surface, known as bottom grounds, on the waters of Ohio and the Atlantic rivers. The former incline from, and the latter towards the respective streams upon whose margin they are found. In addition to the bottoms, are also much of that kind of land known in the southern states as hammock land. The side of the hills are frequently composed of second rate land clothed with pine, black oak, red oak, ash, black hickory, and dogwood. This latter description of soil would no doubt suit the culture of small grain. This tract is yet entirely uninhabited, of course it is only by analogy that the quality of the land can be estimated. No country can have the advantage of finer springs of water. Though comparatively less extensive, the productive soil of all the peninsula between Red and Ouachitta rivers, presents the same qualities and varieties as on lake Bistineau.

being found by digging, there are many reasons to believe, that the entire surface rests upon a superstratum impregnated with salt.

The waters of Red river are at Natchitoches so brackish, as to be rendered unfit for use, either for drink or cooking. This quality of the water arises from the soil through which Red river flows; many of the tributary streams are composed of excellent, pure, clear, and sweet water.

near, and particularly, whatever other differences may exist, the water is uniformly plentiful and good.

Considered geologically, this peninsula is below 33° N. lat. intersected by one chain of high hills, which projecting several embayments, form the natural outline of the country. At the intersection of the northernmost part of the 33° N. lat. and 16° W. lon. from Washington, a bold and considerably elevated ridge enters the state of Louisiana, and about fifteen miles within the state divides into three branches. The western branch bears a little west of south, separates the waters that flow into Dacheet river and lake Bistineau, from those which enter Black lake river; finally sinks into the low lands of Red river near 32° N. lat. The middle branch runs nearly south after departing from the main ridge; discharges its water westward into Black lake river, and eastward into Saline river; and merges into the low lands near the junction of those latter streams. The third or eastern ridge diverges from the point of separation bearing S. E., and continuing that course eight or ten miles, divides into two ridges; which may be, from their relative position, denominated southern and northeastern. The former, or southwestern, seems to be a continuation of the main chain, as in all its length it forms the dividing ridge between the waters that flow southwest into Red river, from those which are discharged southeast into the Ouachitta river. After leaving the northeastern branch, the southwestern bears southwest twenty miles; gradually inclines to the south; continues that course to the 32° N. lat. where it curves a little east of south, and obeying very nearly the general course of Red river, finally terminates upon the left shore of that stream, at the Ecor a Chêne, about fifteen miles S. E. of the town of Alexandria. The northeastern branch, bearing southeast between the waters of Derbane and those of the Dugdomoni and Little rivers, reaches within two miles of the Ouachitta at $32^{\circ} 18'$ N. lat.; then follows that river, preserving a distance of two or three miles from its margin; finally sinks into the level alluvion at the court-house of Ocatahoola at $31^{\circ} 42'$ N. lat.

Leaving the alluvial banks of Red river and traversing the rugged region, we have been describing, the traveller will again find himself on a fertile recent alluvion on passing Ouachitta river.

Though its banks are generally composed of light materials brought down by the stream, the Ouachitta, except on times of high flood, exhibits a clear and beautiful current flowing gently, and on a smaller scale, having considerable resemblance to the Ohio. The Ouachitta was, before the expedition of Mr. William Dunbar and Dr. Hunter in 1804, but very imperfectly known. These gentlemen explored it to the hot springs in $34^{\circ} 30'$ N. lat. and procured such information of its tributary streams, as to enable them to publish the history of this fine river in considerable detail and great accuracy, as far as their information extended. The author of this treatise traversed the country adjacent to the Ouachitta twice, as high as 33° N. lat. and availed himself of every opportunity to procure information respecting the river, country, soil, vegetable and mineral productions. In adding to the information given by Messieurs Dunbar and Hunter,

his own researches, the following sketches may convey a tolerable accurate conception of the Ouachitta and its tributaries.

From the best information, the extreme source of the Ouachitta is in $18^{\circ} 30'$ W. lon. from Washington city, and at 34° N. lat. The courses of the higher streams of the Ouachitta is first southeast sixty or seventy miles; then east one hundred miles, where three branches unite; and continuing east twenty miles, receives from the northeast Hot Spring creek. This place is in itself remarkable, but has been rendered an object of peculiar interest, as being the only part of this remote region that has been carefully examined by men of science. The researches of Mr. Dunbar and Dr. Hunter has established the geological structure of the country near the hot springs to be composed of secondary materials, schistose sand stone. The Masserne mountains, out of which the Ouachitta flows, are ascertained to be not very elevated; but not having ever been surveyed with accuracy, their component parts are unknown with any precision.

The country watered by the head streams of the Ouachitta is sterile prairie, or broken, rocky, mountainous land. The hot springs are on the south side of the mountains, the adjacent country also barren. Some very confined tracts of good land does exist along the streams, not in quantity sufficient to admit a numerous population. In addition to the salubrity of the water, this elevated region is described as extremely healthful. Valitudinarians from Louisiana, Arkansaw, and Mississippi, have been generally relieved, when labouring under pulmonary complaints: how much of the cure was attributable to change of air and relief from the anxiety of business, it is difficult to say.

Below the mouth of Hot Spring creek. Ouachitta turns to the south, and flowing in that direction twenty-five miles, receives from the west the Fourcheau Cado; and about a similar distance farther to the south, the Little Missouri river. These two tributary streams rise in the spurs of the Masserne; and flowing nearly east, waters considerable spaces of good land. Some prairies, but not of considerable extent, are interspersed over the surface of the country, and are generally composed of poor, thin soil.

Twelve miles southeast of the hot springs rises the Saline branch of Ouachitta; which, after a course of one hundred and fifty miles, enters Ouachitta a short distance above the north limit of Louisiana. The land upon the Saline is generally thin and poor.

About thirty miles southeast of the heads of the Saline is the source of the Barthelemy; which pursuing a course nearly parallel to the former, joins Ouachitta at $32^{\circ} 40'$ N. lat. The Barthelemy is bordered on each side by an excellent body of land, particularly near its mouth. Before entering the Ouachitta the Barthelemy is joined by an ancient outlet of the former stream. Here may be considered the commencement of the recent alluvion. The outlet mentioned above is denominated Bayou Siard; which after continuing, with all its windings, about twenty-five miles, falls into Ouachitta three mile above Fort Miro.

Extending N. E. from Bayou Siard and Ouachitta river, lies the land granted by the Spanish government to the baron of Bastrop. As this

claim is important from its great extent, as is another upon both banks of Ouachitta, a short distance below Bayou Siard, granted also by the Spanish government to the marquis of Maison Rouge, the titles and quality of the soil of both are inserted in this treatise. The information given, respecting the land contained in these grants, are taken from actual observation made by the author on the spot. The documents respecting the titles are extracted from the collection made and published by the United States' government, pursuant to an act of congress passed April 27th, 1800. The papers respecting these lands exhibit one of the few instances where the administrators of the government of Spain departed from the regular mode of granting land in Louisiana.* If the conditions upon which these grants were made had been acted upon to the utmost extent of the power of the claimants, or the wishes of the Spanish government, it is difficult to determine how far the nature of the country would facilitate or oppose the production of flour. Wheat of good quality has been raised on Ouachitta within the limits of these grants; but admitting that it might be made in large quantity, there is no doubt but cotton will enable the planter on these lands to purchase flour cheaper than it can be made upon their own farms.

So much speculation has been made respecting these grants, and so vague are the opinions of the public on the subject, that their entire insertion is made in this treatise, in order to enable the emigrant, or land purchasers, to form their own conclusions on certain grounds.

Papers respecting Grand Maison's claim on Washita.

We, Francis Lewis Hector, baron de Carondelet, knight of Malta, brigadier general of the royal armies of his catholic majesty, military and civil governor of the provinces of Louisiana and West Florida; Don Francis Rendou, intendant of the army, and deputy superintendent of the royal domains in the said provinces; Don Joseph de Orue, Knight of the royal and distinguished order of Charles Third, principal accountant for the royal chests of this army, exercising the functions of fiscal of the royal domains,—declare, that we agree and contract with the senior marquis de Maison Rouge, an emigrant French knight, who has arrived in this capital from the United States, to propose to us to bring into these provinces thirty families, who are also emigrants, and who are to descend the Ohio, for the purpose of forming an establishment with them on the lands bordering upon the Washita, designed principally for the culture of wheat, and the erection of mills for manufacturing flour, under the following conditions:

1st. We offer, in the name of his catholic majesty, whom God preserve, to pay out of the royal treasury two hundred dollars to every family composed of two white persons, fit for agriculture or for the arts useful and necessary to this establishment, as house or ship carpenters, blacksmiths, and locksmiths; and four hundred to those having four labourers; and in the same way, one hundred to those having no more than one useful labourer or artificer, as before described, with his family.

* See page 6

2d. At the same time we promise, under the auspices of our sovereign monarch, to assist them forward from New Madrid to Wishita, with a skilful guide, and the provisions necessary for them, till their arrival at their place of destination.

3d. The expenses of transportation of their baggage and implements of labour, which shall come by sea to this capital, shall be paid on account of the royal domains; and they shall be taken on the same account from this place to Wishita, provided that the weight shall not exceed three thousand pounds for each family.

4th. There shall be granted to every family containing two white persons fit for agriculture, ten arpens of land, extending back forty arpens, and increasing in the same proportion, to those which shall contain a greater number of white cultivators.

5th. Lastly, it shall be permitted to the families to bring or to cause to come with them, European servants, who shall bind themselves to their service for six or more years, under the express condition, that if they have families, they shall have a right, after their term of service is expired, to receive grants of land, proportioned in the same manner to their numbers. Thus we promise, as we have here stated; and that it may come to the knowledge of those families who propose to transport themselves hither, we sign the present contract, with the aforesaid senior marquis de Maison Rouge, to whom, that it may be made plain, a certified copy shall be furnished.

New Orleans, the seventeenth of March, 1795.

The BARON DE CARONDELET,
FRANCIS RENDOU,
JOSEPH DE ORUE,
The MARQUIS DE MAISON ROUGE.

Having laid before the king what you have made known in your letter of the 25th of April last. No. 44, relative to the contract entered into with the marquis of Maison Rouge, for the establishment on the Washita, of the thirty families of farmers destined to cultivate wheat, for the supply of these provinces, his majesty, considering the advantages which it promises, compared with the preceding, has been pleased to approve it in all its parts. By his royal direction, I communicate it to you for your information. God preserve you many years.

Madrid, 14th July, 1795.

GARDOQUI.

To the Intendant of Louisiana.

New Orleans, Nov. 13th, 1795.

To be transmitted to the principal office of accounts (Contaduria) of the army and royal domains, for their information, and two certified copies to be provided for this secretary's office.

RENDOU.

Don Gilbert Leonard, treasurer of the army, exercising the functions of royal accountant, and Don Manuel Gouzales Armires, exercising those of treasurer, par interior, of the royal chests of this province of Louisiana.

We certify, that the two foregoing copies are conformable to the originals, which remain in the archives of the ministry of the royal

domains under our charge, and that the contractor, the marquis de Maison Rouge, complied punctually with the terms which he proposed in the said contract ; and that this may be made manifest, conformably to the order above inserted, of this intendency general, we give the present in New Orleans, the 5th of August, 1803.

GILBERT LEONARD,
MANUEL ARMIREZ.

The Baron de Carondelet, knight of the order of St. John, marshal de camp of the royal armies, governor general, vice patron of the provinces of Louisiana and West Florida, inspector of troops, &c.

Forasmuch as the Marquis de Maison Rouge is near completing the establishment of the Washita, which he was authorized to make for thirty families, by the royal order of July 14th, 1795 ; and desirous to remove for the future all doubt respecting other families or new colonists who may come to establish themselves, we destine and appropriate conclusively for the establishment of the aforesaid marquis de Maison Rouge, by the power granted to us by the king, the thirty superficial leagues marked in the place annexed to the head of this instrument, with the limits and boundaries designated with our approbation, by the surveyor general, Don Charles Laveau Trudeau, under the terms and conditions stipulated and contracted for by the said marquis de Maison Rouge ; and that it may at all times stand good, we give the present, signed with our hand, sealed with our seal at arms, and countersigned by the underwritten honorary commissary of war, and secretary of his majesty for this commandancy-general.

New Orleans, the twentieth of June, 1797.

The BARON DE CARONDELET,
ANDRES LOPES ARMISTO.

Note.—That in conformity with his contract, the marquis de Maison Rouge is not to admit or establish any American in the lands included in his grant.

The BARON DE CARONDELET.

Papers respecting Bastrop's claim on Wishita.

To the Governor General—

The Baron de Bastrop, desirous of encouraging the population and cultivation of the Ouachitta and its neighbourhood, of passing into the United States to complete the plan of emigration which he has projected, and from thence to return with his family, makes known to your lordship, that it is absolutely indispensable on the part of the government, that a district be designated of about twelve leagues square, including the Bayou Siard and its vicinity, in which your petitioner may, without the least obstacle or delay, place the families he is about to bring in, on the express condition that concessions of land are to be made gratis, and under no title or pretext to exceed, at most, four hundred arpens square, with a view to prevent the introduction of negroes, and the making of indigo, which in that district will be entirely contrary and prejudicial to the cultivation of wheat, and will chuse your petitioner irrecoverably to lose the ex-

penses of his establishment. Your petitioner prays also that you will be pleased to grant him permission to export for the Havanna, the flour which may be manufactured at the mills on the Ouachitta, without confining him to sell it absolutely in New Orleans, and other posts in this province, unless it should be necessary for their subsistence, in which case they ought always to have the preference. It is also indispensable that the government should charge itself with the conducting and support of the families which the petitioner may introduce from the post of New Madrid to Ouachitta, by furnishing them with some provisions for the subsistence of the first months, and assisting them to commence the sowing of their seeds, granting to those inhabitants who are not catholics, the same liberty of conscience as is enjoyed by those of Baton Rouge, Natchez, and other districts of the province, and without fixing on the part of the government conclusively, the number of families which your petitioner is to introduce. The zeal which I feel for the prosperity and encouragement of the province, joined to a desire of securing tranquillity and quietude to that establishment, by removing at once whatever obstacles might be opposed to those interesting objects, have induced me to represent to you what I have here done, hoping that you will recognise in these dispositions the best service of the king and advancement of the province confided to your authority.

New Orleans, June 20th, 1796.*

DE BASTROP.

New Orleans, June 21, 1796.

Seeing the advantages which will result from the establishment projected by baron Bastrop, the commandant of Ouachitta, Don John Feliol, will designate twelve leagues square, half on the side of the Bayou of Siard, and half on the side opposite the Ouachitta, for the purpose of placing there the families which the said baron may direct; it being understood that no greater concession of land is to be given to any one than four hundred square arpens, at most, gratis, and free from all dues. With regard to the object of this establishment, it is to be for the cultivation of wheat alone. The exportation of the products of this province being free, the petitioner need not doubt that it will be allowed to him for the flour that he may manufacture at the mills of the Ouachitta, to the Havanna, and other places open to the free commerce of this province. The government will charge itself with the conducting of the families from New Madrid to Ouachitta, and will give them such provisions as may appear sufficient for their support during six months, and proportionably for their seeds. They shall not be molested in matters of religion, but the apostolical Roman catholic worship shall alone be publicly permitted. The petitioner shall be allowed to bring in as many as five hundred families; provided, that after the lapse of three years, if the major part of the establishment shall not have been made good, the twelve leagues square destined for those whom the petitioner may place there, shall

* It is presumed that this date, as well as that of the decree of the Baron de Carondelet, immediately succeeding, ought to have been 1795, instead of 1796.

be occupied by the families which may first present themselves for that purpose.

The BARON DE CARONDELET, (L.S.)
ANDRES LOPES ARMESTO.

Registered,

The Baron de Carondelet, chevalier of the religion of St. John, marshal de camp of the royal armies, governor general, vice patron of the provinces of Louisiana, West Florida, and inspector of the troops, &c. Whereas, the baron Bastrop, in pursuance of his petition, dated the 20th of June of the year last past, and the decree of the 21st of the same month, has commenced the establishment of the Ouachitta: that for the fulfilment of the stipulation on the part of the government; for avoiding progressively all obstacles, difficulties, and delays; and that the said baron might proceed with every facility in fixing the families, which, to the number of five hundred, he was held to place or cause to be placed there; we have proceeded to designate the twelve leagues intended for the said settlement, in the terms, with the limits, metes, and bounds, and in the place marked, fixed, and defined by the figured plan and description, affixed to the head of this instrument, verified by the surveyor general, Don Charles Laveau Trudeau. It having now appeared, to us to be also most expedient, for avoiding all contest and dispute, and approving them, as we do approve them, by virtue of the authority which the king has granted to us, we do destine and appropriate, in his royal name, the aforesaid twelve leagues, in order that the said baron Bastrop may establish them in the manner and under the conditions expressed in the said petition and decree. We give the present, signed with our hand, sealed with the seal of our arms, and countersigned by the under-written honorary commissary of war, and secretary of his majesty for this commandancy-general.

New Orleans, June 20th, 1796.

The BARON DE CARONDELET, (L.S.)
ANDRE LOPES ARMESTO.

To the Governor General—

Baron de Bastrop has the honour to make known to you, that it being his intention to establish in the Ouachitta, it is expedient that you should grant to him a corresponding permission to erect there one or more mills, as the population may require; as also to shut up the Bayou de Siard, where he proposes to establish the said mills, with a dike in the place most convenient for his works; and as it appears necessary to prevent disputes in the progress of the affair, he begs also the grant along the Bayou Barthelemy, from its source to its mouth, of six toises on each bank, to construct upon them the mills and works which he may find necessary; and prohibiting every person from making upon said Bayou any bridge, in order that its navigation may be interrupted, as it ought, at all times, to remain free and unobstructed. This request, Sir, will not appear exorbitant, when you are pleased to observe that your petitioner, who will expend in these works twenty thousand dollars, or more, will be exposed, without these grants, to lose all the fruits of his labours, by

the caprice or jealousy of any individual, who being established on this Bayou, may cut off the water or obstruct the navigation ; not to mention the loss which the province will sustain of the immense advantages to result from the useful project proposed for the encouragement of the agriculture and population of those parts.

New Orleans, June 12, 1797.

DE BASTROP.

New Orleans, June 12, 1797.

Considering the advantages to the population on the Ouachitta, and the province in general, to result from the encouragement of the cultivation of wheat, and the construction of flour mills, which the petitioner proposes to make at his own expense, I grant him, in the name of his majesty, and by virtue of the authorities which he has conferred upon me, liberty to shut up the Bayou de Siard, on which he is about to establish his mills, with a dike at the place most proper for the carrying on his works. I also grant him the exclusive enjoyment of six toises of ground on each side of the Bayou Barthelemi, from its source to its mouth, to enable him to construct the works and dams necessary for his mills, it being understood, that by this grant, it is not intended to prohibit the free navigation of the said Bayou to the rest of the inhabitants, who shall be free to use the same, without, however, being permitted to throw across it any bridge, or to obstruct the navigation, which shall at all times remain free and open. Under the conditions here expressed, such mills as he may think proper to erect, may be disposed of by the petitioner, together with the lands adjoining, as estates belonging entirely to him in virtue of this decree, in relation to which the surveys are to be continued, and the commandant, Don John Feliol, will verify and remit them to me, so that the person interested may obtain a corresponding title in form. It being a formal and express condition of this grant, that at least one mill shall be constructed within two years, otherwise it is to remain null.

The BARON DE CARONDELET, (L.S.)
ANDRE LOPES ARMESTO.

Registered,

[Here follow a petition and decree, the same as the preceding, except that the petition asks for six toises of ground on each side of the Bayou de Siard from its source to its mouth, which are granted by the decree.]

The Baron de Bastrop contracts with his majesty, to furnish, for the term of six months, rations to the families which he has latterly introduced at the post of Ouachitta, which are to be composed of twenty-four ounces of fresh bread, or an equivalent in flour ; twelve ounces of fresh beef, or six of bacon, two ounces of fine menestra, or three of ordinary ; and one thousandth part of a celemin, (about a peck) of salt, for which there is to be paid to him, by the royal chests, at the rate of a rial and a half for each ration. For which purpose there shall be made out monthly a particular account, the truth and regularity of which shall be attested at post, by the commandant of that post. Under which conditions, I oblige myself, with my

person and estate, to the fulfilment of the present contract, subjecting myself in all things to the jurisdiction of this general intendency.

In testimony of which I sign it at New Orleans, the 16th of June, 1797.

BARON DE BASTROP.

New Orleans, June 16, 1797.

I approve this contract in the name of his majesty, with the intervention of Senor Gilbert Leonard, principal contractor of the army in these provinces, for its validity. Two certified copies are to be directed to the secretary, Juan Ventura Morales. With my intervention, Gilbert Leonard. Copy of the original, which remains in my keeping, and which I certify, and is taken out to be passed to the secretary of this general intendency.

New Orleans, ut supra.

GILBERT LEONARD.

Whereas, the intendant, from the want of funds, has solicited the suspension of the last remittance of families, until the decision of his majesty, there ought to be no prejudice occasioned to you, by the last paragraph of my decree, which expresses, that if within three years the major part of the establishment which shall not have been made good, such families as may first present themselves shall be located within the twelve leagues distinct from the settlement which you have commenced; and this shall only have effect two years after the course of the contract shall have again commenced to be executed, and the determination of his majesty shall have been made known to you. You will always remain persuaded, that on my part I will observe religiously the engagements I have contracted; a principle which has constantly distinguished the Spanish nation. God preserve you many years.

New Orleans, June 18, 1797.

The BARON DE CARONDELET.

To Baron de Bastrop.

Baron Bastrop attempted to carry into effect the stipulations of his engagement, but the Spanish government failing in the performance of their share of the contract, the whole project was ultimately abandoned. The marquis of Maison Rouge died, not ever carrying into operation any part of the conditions upon which his grant was made, but having procured the assent of the king of Spain, the patent was tacitly confirmed. Though the approbation of the king of Spain was not given in favour of Bastrop's claim, yet there are many very favourable circumstances under which the claimants now rest their title to the property. One of the most powerful arguments in aid of the validity of this grant is, that the legal representative of the first grantee has always continued in possession of the property from the date of the grant. There cannot be much doubt but that the claimants to the land as granted to Bastrop has as fair and equitable a title to the soil as that of any other landed property in the state of Louisiana. Respecting that of Maison Rouge there is no doubt.

The superficies of the grant of Bastrop are very various in quality; beside the Ouachitta and Bayou Siard, which bounds the grant on the west, it is traversed by the Barthelemy, Bon Idée, Bœuf and Maçon rivers.

Three prairies, each from three to four miles long and two broad, diversify the surface. Prairie de Bute on the right bank of Barthelemy, Jefferson, and Mer Rouge, between the Bœuf and Barthelemy rivers. Though taken in all its extent, Bastrop's grant cannot be considered a fertile body of land, yet in the forementioned prairies and on the margin of the streams, considerable extent of good soil exists.

The settlements already made in the grant are not inconsiderable. The seat of justice for the parish of Ouachitta is in Prairie Mer Rouge. The banks of Barthelemy are settled to considerable extent. Prairie Jefferson is also inhabited and cultivated. Scattering farms are to be found over all parts of the grant. Much of the best land, however, remains still vacant.

The interval between the streams is generally pine forest, flat, and in many places marshy. On the streams the timber is composed of black oak, white oak, red oak, ash, linden, sweet gum, elm, dogwood, and other trees usually found on rich land.

Cotton and tobacco are the staples, particularly the former. The land and climate are favourable to its culture. Maize, potatoes, legumes, and most garden vegetables, grow abundantly.

Of fruit trees which have been cultivated, the most plentiful are figs and peaches, which are of excellent quality. Of vine fruits, melons, pumpions, cucumbers, and squashes, are those most cultivated.

It has been observed, that small grain would grow, and in all probability, produce abundantly on Ouachitta; and the reason why those gramina will not be cultivated extensively, has been exhibited.

The following list contains the most valuable forest trees, found not only on the land included in Bastrop's grant, but in the adjacent country.

Celtis crassifolia,
Carasus virginiana,
Cupressus disticha,
Diospiros virginiana,
Fagus sylvestris,
Fraxinus tomentosa,
Gleditsia triacanthos,
Juglans amara,
Juglans laciniosa,
Juglans nigra,
Laurus sassafras,
Magnolia grandiflora,
Nyssa aquatica,
Nyssa sylvatica,
Pinus rigida,
Populus angulata.

Hackberry,
 Wild cherry,
 Cypress,
 Persimon,
 Beach,
 Ash,
 Honey locust,
 Bitter-nut hickory,
 Thick shell bark hickory,
 Black walnut,
 Sassafras,
 Large laurel,
 Tupeloo,
 Black gum,
 Pitch pine,
 Cotton wood,

<i>Platanus occidentalis,</i>	Sycamore,
<i>Quercus alba,</i>	White oak,
<i>Quercus rubra,</i>	Red oak,
<i>Quercus tinctoria,*</i>	Black oak,
<i>Quercus nigra,</i>	Black oak,
<i>Tilia Pubescens,</i>	Linden,
<i>Robinia pseud acacia,</i>	Locust,†
<i>Ulmus Americana,</i>	Mucilaginous elm,
<i>Ulmus rubra,</i>	Red elm.

The *liriodendron* might have been enumerated, but the tree is not plentiful. On the streams the large cane affords extensive brakes, but is yielding to the united action of fire and cattle.

The land included in the grant made to the marquis Maison Rouge, lies along both banks of Ouachitta; commencing about five miles below Fort Miro, and extending down the stream, following its bends upwards of forty miles. Some small grants were made on land on Ouachitta, and the land occupied previous to the date of this grant, but not of any considerable extent. The greatest part of the land contained in the grant remains vacant. No soil in Louisiana is superior to this part of the banks of the Ouachitta. Cotton is yet the staple, and produced in great quantity in proportion to the ground cultivated.

The surface of the country is variegated, and presents soil of very different qualities. That part which lies east of the Ouachitta is perfectly similar to the other alluvial lands of Louisiana: an arable border of from two hundred yards to half a mile wide, skirts the stream: in the rear of this rich selva of productive soil the overflowed surface commences, and continues indefinitely towards the Bon Ildé river.

On the west side of Ouachitta the river is also bordered by a margin of alluvial soil, but of less extent than on the east side. It has been noticed, that a ridge of hills connected with those that divide the waters of Red from those of Ouachitta rivers, winds along the west side of the latter stream. This ridge enters Maison Rouge's grant about ten miles below its higher extremity, and continuing to follow the general course of the river, runs through the remainder of the land in descending the Ouachitta. The front of this ridge is bold and precipitous, facing the river; but declines gradually to the westward. It may be remarked, that all the water that flows from these hills, descends towards the west, and enters Little river.

* Two very distinct species of the oak are in Louisiana, indiscriminately called black oak. The *quercus tinctoria* is a most majestic tree, and perhaps its presence is one of the most certain indications of good land to be met with in the country. The common black oak is a less elevated, more branching, and less valuable timber than the *quercus tinctoria*; the latter is much more abundant, the former being seldom found in large quantity except near the margin of the prairies.

† The locust, not found in any part south of Red river, is plentiful on the Ouachitta and Red river. On Ouachitta it grows only on the banks of that river, but on Red river is often found scattered over the face of the country. This tree abounds also at Natchez.

- The timber upon *Maison Rouge's* does not materially differ from that found on *Bastrop's* grant. On both the quality, abundance, variety, and convenience of the timber, is one of the most remarkable peculiarities of the country.

There are but few places where more pleasant and profitable establishments could be formed than on *Ouachitta*. The productive alluvion on one bank, and the high pine hills on the opposite shore, afford choice of situation; but few places can equal.

The *Ouachitta* is navigable for large boats at all times of the year, except in very dry seasons. The river lands are extremely well adapted to the production of cotton.

A question is demanded by almost all persons from the eastern and middle states, whether this, or any other part of Louisiana, affords good mill seats?—In general, alluvial countries are too level to admit waterfalls of any considerable height; of course, such lands are not productive in places where water can be applied to propelling machinery. It is worthy of remark, that in Louisiana, where the land is fertile, waterfalls are unfrequent, and that where they abound the land is sterile. And it may be farther remarked, that the use of steam removes the necessity of having water; and admitting indefinite choice of position, obviates many of the inconveniences of water as an agent in machinery.

These observations on the *Ouachitta* may be concluded, by observing that, sugar excepted, there is no fruit or other vegetable production raised in any part of the state of Louisiana or Mississippi, but that may be brought to perfection on its banks.

The general remarks made upon the *Ouachitta*, its lands, timber, and vegetable productions, may be extended to the soil upon the banks of *Bœuf*, *Maçon*, and *Tensaw*. Wherever the banks of these streams are elevated sufficient for culture, cotton may be considered the staple. A reference to the list of distances from New Orleans to the hot springs,* will enable the reader to perceive the commercial facilities of the intermediate places. The time consumed in a voyage from New Orleans to either *Natchez* or *Ouachitta*, and to return, is about twenty days.

Numerous saw mills exist on the branches of *Little river*, from which great quantities of lumber is transported down the various rivers to New Orleans.

Political divisions,—settlements,—towns.—In the N. W. section of the state of Louisiana, there are parishes; *Natchitoches*, *Rapides*, *Ocatahoola*, *Ouachitta*, *Concordia*, and *Avoyelles*.

NATCHITOCHES embraces the N. W. angle of the state, lying upon the waters of *Red*, *Sabine*, and *Calcasieu* rivers; having *Texas* west, *Sabine* southwest, *Opelousas* south, *Rapides* southeast, *Ouachitta* east, and the *Missouri* territory north.

- *Natchitoches* town stands upon the right or west bank of *Red river*, $31^{\circ} 46' N.$ lat. $16^{\circ} 7' W.$ from Washington city. This town, or rather post, was established in January 1717. The first buildings were erected about one mile to the south of the present village. The remains of the old fort and of the gardens still remain visible.

* See page 46.

Natchitoches is, and must continue, a place of considerable consequence. Before the revolution commenced in Texas in 1811, an extensive inland trade was carried on between the people of Louisiana and those of the Spanish internal provinces, of which this town was the *entrepot*. This traffic will be at some future day revived. A few troops are stationed here, which, with the Indian trade, still gives a lively business to the village. The town itself is situated upon the alluvial banks of Red river; but the pine hills commence within two hundred yards of the river brink, upon one of which is Fort Claiborne.

The waters of Red river are brackish, but some springs of excellent water exist in the hills to the west of the town, from which the inhabitants are supplied with that indispensable necessary of life.

Natchitoches is the largest town in Louisiana west of the Mississippi. The present number of inhabitants must exceed six hundred, exclusive of the garrison.

The parish of *Rapides*, so called from the French name for rapids, lies southeast of Natchitoches; situated principally in the valley of Red river, but extending to reach the waters of Ouachitta; having Natchitoches northwest, Opelousas south, Avoyelles, Concordia, and Ocatahoola east, and Ocatahoola and Ouachitta north. In quality of soil and general objects of production, this parish differs very little from that of Natchitoches.

Alexandria lies on the right or west bank of Red river, half a mile below the rapids, $31^{\circ} 19' N. 15^{\circ} 28' W.$ from Washington city. This is a very flourishing village. At times of low water, standing at the head of barge navigation. The settlements around this town are flourishing and wealthy. It is supposed by many, that Rapides has more valuable land in proportion to its extent, than any other parish in the state. The distance from Alexandria to New Orleans will be seen by reference to route No. 13, page 47 of this treatise.

OCATAHOOLA is situated entirely in the valley of Ouachitta. No town of any note has hitherto arisen in this parish; and as respects its productions and improvements, little can be added that has not been anticipated, when speaking upon the Ouachitta lands. The settlements are scattered upon Little river, Ocatahoola prairie, and Ouachitta river, Sicily island, and Bœuf river and prairie.

OUACHITTA possesses no town of consequence: the settlements are extended along Ouachitta river, Bayou Siard, Barthelemy river, and Prairies Mer Rouge, and Jefferson. Some scattering settlements are formed on various places, particularly the Derbane west of Ouachitta, but not extensive.

CONCORDIA stretches along the right bank of the Mississippi, having that stream east, Maçon, Tensaw, Black, and Red rivers west, and the parish of Ouachitta N. W. This parish occupies an inclined plane: its entire surface is alluvial, and all its soil excellent that is sufficiently elevated to admit of culture. Concordia, from its position, is very much exposed to the overflow of the Mississippi, and the reflux of the Red river and its interlocutory streams. Cotton is the only staple; the quality excellent.

Concordia town, opposite Natchez, is the seat of justice; but as a

village is of but little consequence : it is the only town in the parish. Settlements are on the Mississippi, and lakes St. John, Concordia, St. Joseph, and Tensaw rivers

AVOYELLES, so called from the prairies of that name ; having on the east the Red, Mississippi, and Atchafalaya rivers, southwest Opelousas, and northwest and north Rapides. The settlements of Avoyelles are most part in the prairie, and tolerably compact. The land of the prairie is high, and bears much greater resemblance to Opelousas than to the lands of Red river, though contiguous to the latter. The outlets of Red river forms water courses, which with the parent stream, encircles the prairie ; and at a time of high water renders it entirely insulated.

All the lands of this parish that are of sufficient elevation to be arable, are of first rate quality ; great part of which remain yet public property.

Cotton is the staple ; and together with maize, constitutes the principal object of culture. No town exists in the parish.

These observations on the N. W. section may be closed by observing, that during the season of inundation, the passage from the east side of the Mississippi is very difficult, except through the water-courses. The best time of the year to visit this country is in the months of September, October, and November.

Nothing has been said on the prices of land. Nothing can be said with precision on that subject. Prices vary to infinity. The minimum price of good land will, for many years to come, be here and almost every where on the frontiers of the United States, two dollars per acre ; but above that sum, the value must be estimated from the combined advantages of every individual tract.

CHAPTER III.

The state of Mississippi was designated by the following act of congress.

An act to enable the people of the western part of the Mississippi territory to form a constitutional and state government, and for the admission of such state into the union on an equal footing with the original states.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the inhabitants of the western part of the Mississippi territory be, and they hereby are authorized to form for themselves a constitutional and state government, and to assume such name as they shall deem proper; and the said state, when formed, shall be admitted into the union upon the same footing with the original states, in all respects whatever.

Sec. 2. And be it further enacted, That the said state shall consist of all the territory included within the following boundaries, to wit:—Beginning on the Mississippi river at the point where the southern boundary line of the state of Tennessee strikes the same; thence east along the said boundary line to the Tennessee river; thence up the same to the mouth of Bear creek; thence by a direct line to the north-west corner of the county of Washington; thence due south to the gulf of Mexico; thence westwardly, including all the islands within six leagues of the shore, to the most eastern junction of Pearl river with lake Borgne; thence up said river to the thirty-first degree of north latitude; thence west along the said degree of latitude to the Mississippi river; thence up the same to the beginning.

Sec. 3 And be it further enacted, That all free white male citizens of the United States, who shall have arrived at the age of twenty-one years, and resided in the said territory at least one year previous to the time of holding the election, and shall have paid a county or territorial tax, and all persons having in other respects the legal qualifications to vote for representatives in the general assembly of the said territory, be, and they are hereby authorized to choose representatives to form a convention, who shall be apportioned among the respective counties in the said territory as follows, to wit:—From the county of Warren, two representatives; from the county of Claiborne, four representatives; from the county of Jefferson, four representatives; from the county of Adams, eight representatives; from the county of Franklin, two representatives; from the county of Wilkinson, six representatives; from the county of Amite, six representatives; from the county of Pike, four representatives; from the county of Lawrence, two representatives; from the county of Marion, two representatives; from the county of Hancock, two representatives; from the county of Wayne, two representatives; from the county of Greene, two representatives; from the county of Jackson, two representatives; and the election of the representatives aforesaid, shall be holden on the first Monday and Tuesday in June next, throughout the several coun-

ties above mentioned, and shall be conducted in the same manner as is prescribed by the laws of said territory, regulating elections therein for members of the house of representatives.

Sec. 4. And be it further enacted, That the members of the convention, thus duly elected, be, and they hereby are authorized to meet at the town of Washington, on the first Monday in July next; which convention, when met, shall first determine by a majority of the whole number elected, whether it be or be not expedient, at that time, to form a constitution and state government for the people within the said territory: and if it be determined to be expedient, the convention shall be, and hereby are authorized to form a constitution and state government:—Provided that the same, when formed, shall be republican, and not repugnant to the principles of the ordinance of the 13th of July, 1787, between the people and states of the territory northwest of the river Ohio, so far as the same has been extended to the said territory by the articles of agreement between the United States and the state of Georgia, or of the constitution of the United States;—and provided also, That the said convention shall provide, by an ordinance irrevocable without the consent of the United States, that the people inhabiting the said territory, do agree and declare that they for ever disclaim all right or title to the waste and unappropriated lands lying within the said territory, and that the same shall be and remain at the sole and entire disposition of the United States; and moreover, and each and every tract of land sold by congress, shall be and remain exempt from any tax laid by the order or under the authority of the state, whether for state, county, township, parish, or other purpose whatever, for the term of five years from and after the respective days of the sales thereof, and that the lands belonging to citizens of the United States, residing without the said state, shall never be taxed higher than the lands belonging to persons residing therein; and that no taxes shall be imposed on lands the property of the United States, and that the river Mississippi, and the navigable rivers and waters leading into the same, or into the gulf of Mexico, shall be common highways, and for ever free, as well to the inhabitants of the said state as to other citizens of the United States, without any tax, duty, impost or toll therefor, imposed by the said state.

Sec. 5. And be it further enacted, That five per cent. of the nett proceeds of the lands lying within the said territory, and which shall be sold by congress from and after the first day of December next, after deducting all expenses incident to the same, shall be reserved for making public roads and canals; of which three-fifths shall be applied to those objects within the said state, under the direction of congress: Provided, that the application of such proceeds shall not be made until after payment is completed of the one million two hundred and fifty thousand dollars, due to the state of Georgia in consideration of the cession to the United States, nor until the payment of the stock which has been or shall be created by the act, entitled "An act providing for the indemnification of certain claimants of public lands in the Mississippi territory," shall be completed: And provided also, That the said five per cent. shall not be calculated on any part of such proceeds as shall be applied to the payment of the one million two

hundred and fifty thousand dollars, due to the state of Georgia, in consideration of the cession to the United States, or in payment of the stock which may or shall be created by the act, entitled "An act providing for the indemnification of certain claimants of public lands in the Mississippi territory."

Sec. 6. And be it further enacted, That until the next general census shall be taken, the said state shall be entitled to one representative in the house of representatives of the United States.

H. CLAY,

Speaker of the House of Representatives,

JOHN GAILLARD,

President of the Senate pro tempore,

March 1, 1817—Approved,

JAMES MADISON.

The state of Mississippi is divided politically into two portions. The part included in the counties named in the foregoing act of congress, forms the least, but much the most valuable part of the state. The second and most extensive division remains yet in the possession of the Choctaw and Chickesaw Indians.

The following table will exhibit the relative extent of the counties, and their population in 1810. This will no doubt give a very inadequate conception of the number of inhabitants, now existing in the different counties, or their aggregate amount. A very considerable influx of emigrants is annually removing into the country now included in this state.

Statistical Table of the State of Mississippi.

Counties.	Square Miles.	Population in 1810.	In 1816.	Towns.
Warren	414	1114	1,570	Warren
Claiborne	396	3102	3,500	Gibsonspont
Jefferson	540	4001	4,900	Greenville
Adams	414	10,002	10,000	NATCHEZ
Franklin	378	2016	2,700	Liberty
Wilkinson	612	5068	7,270	Woodville
Amite	972	4750	5,060	Liberty
*Pike	720		2,620	Jacksonville
*Lawrence	1000		1,780	Monticello
*Marion	828		1,700	
*Hancock	2100		1,000	
Wayne	1800	1253	2,080	Winchester
*Greene	1856			
*Jackson	1050			
	13,080	31,308	44,180	

The convention authorized by the act of congress, for forming a constitution and state government for the western part of this territory, assembled in the town of Washington on the 7th day of July, 1817. All the delegates were present, except Colonel John Bond, of Pike county. They closed their labours on the 15th of August.

* Counties made since 1810.

His excellency Gov. Holmes was elected president, and conducted to the chair, from which he delivered a short and impressive address ; and Lewis Winston, Esq. was elected secretary, who also addressed the convention on the occasion.

A question was made by Judge Poindexter, to postpone, until the 15th March next, a resolution introduced into the convention [by Mr. Turner] declaring the expediency of forming a constitution and state government at this time, which was decided, yeas 12, nays 35.

The question was then put on adopting the resolution, and decided, yeas 36, nays 11. Judge Poindexter voted for accepting the state government, on the final vote.

A committee was then appointed to prepare and report to the convention, a plan for the constitution, consisting of Messrs. Poindexter, Simpson, Leake, Rankin, Burnet, Downs, Meade, West, Wilkins, Shaw, Brandon, Lattimore, Hanna, Minton, M'Nab, Runnels, Ford, Jourdan, M'Cay, Patton, and Bilbo.

Mr. William Lattimore, late member of congress and a member of the convention, for accepting a state government for the same, delivered the following speech in the convention. It contains so many and so important facts respecting the local subdivisions and interests of that country, and respecting the various land claims, that its entire insertion was judged necessary.

Mr. Lattimore said, he did not presume that he could change the disposition of any member of the convention, in relation to this question. That it was one, however, in which the character and interest of the country were very deeply involved ; and it behooved the convention to deliberate seriously, whilst it was in its power to save the state, and preserve the reputation of consistency.

He begged leave to premise, that he had no extraordinary feeling on this subject. The time was when he had such a feeling ; but it had now passed by. It was a subject on which he had taken an active and highly responsible part. It had been a very interesting part of his duty, which he met with zeal. That he felt, of course, a particular solicitude, so long as his conduct was under the consideration of his constituents ; but they had now decided in his favour. A very large majority of the members of the convention are elected on the grounds of their being in favour of accepting of state government, under the provisions of the law of congress ; and the members thus elected had determined, early in the session, that it was expedient at this time to form a constitution and state government. The difficulties, (said Mr. L.) which now threaten us with a dissolution, have not arisen from an indisposition to state government, agreeably to the provisions of the law, but from a supposed conflict of local interests between the eastern and western sections of the proposed state. He therefore concluded, that his course had been sanctioned by the people whom he had had the honour to represent ; and he now felt as happy on this subject as any man could be. That it was always his desire and care to represent the interest and wishes of his constituents, and as far as his care went, he was now perfectly gratified.

Mr. L. admitted, nevertheless, that he still had such a sensibility on

the subject as was common to other members, when he considered that the character and great interests of the country were at stake. Relative to these interests, he said, he had knowledge of some facts, which had a material bearing on the question, and which, with indulgence, he would lay before the convention. Mr. L. was of opinion that it was expedient to establish state government at this time, because there was a great local interest to be represented in the next congress. Here he adverted to the land claims below the 31° of latitude, (Hancock and Jackson counties) which, he said, would probably be decided on, that session. In these claims, Mr. L. said, nearly the whole population of that part of the country was deeply interested. He alluded also to the British land claims, which, from certain circumstances stated, might be brought up at the same session; as also, the question of extinguishing the Indian title to lands east of the Mississippi, which had been agitated at the last session of congress, and would probably be renewed. These various subjects taken together, Mr. L. said, constituted an interest of the highest importance to the whole of the proposed state. How necessary then, he asked, might it be, to have two senators and one representative in congress, at their next session, instead of only one delegate without a vote? This, he said, was especially manifest, as related to the extinguishment of Indian title, a subject confined chiefly to the executive branch of the general government, of which the senate is a constituent part.

But much had been said, continued Mr. L. respecting the expediency of our having a large state agreeably to the present limits of the territory; and also respecting the line of division designated by the law. Mr. L. observed, that he was always prepared to discuss these questions, although he had abstained from doing it when they were first before the committee, from an indisposition to produce excitement or delay. But since these questions have recurred, he would now state the facts he possessed, and the opinions he entertained.

Towards the close of last session of congress in 1814-15, Mr. L. said, he reported a bill to the house for the admission of the territory into the union, as a state, with its entire limits, in obedience to instructions to that effect; which bill was not acted on for the want of time. At the next session he reported a similar bill, which, through his exertions passed the house, but was postponed by the senate, as similar bills had been in the time of his predecessor, to whom he then appealed for the truth of what he said. For these postponements, which were rejections in effect, the extraordinary size of the territory was assigned. Indeed he was convinced, from all he had seen and heard in congress, that the Senate would never agree to admit the territory without dividing it. Wherefore, and because his constituents had expressed different wishes on the subject, he took another course at the last session of congress. On the last occasion, when this subject was taken up by a select committee of the house, feeling the delicacy and responsibility of his situation, he abstained from any remark until the committee generally had expressed its opinion, and this opinion was unanimously and decidedly in favour of a division. The next question was, by what line shall the territory be divided?

On this question also, said Mr. L. he was silent, until the sense of the committee was ascertained. And why should he be silent and neutral, he asked, when his constituents had expressed so many various opinions, and evinced such a confliction of will, on this point? He knew what an interest was felt on this subject by his constituents in the different sections of the territory; and being the representative of all, and not of any one section of the country, or portion of the people, he had determined, before he left home, to leave it to congress to choose their own line, whether it should be the Tombigbee river, or an artificial line, provided it was such an one as might appear to him to be just. In examining this question, the committee drew their fingers along the map west of the Tombigbee, from the Tennessee line to the gulf of Mexico, and at once determined that the jurisdiction of that river should belong, exclusively, to the eastern section of the territory. To this Mr. L. said, he objected, upon the ground that such a division would give more than an equal portion of the territory to the eastern section. He was answered, however, that the western section would even then contain a much greater quantity of good land. He further objected, that the Indian claims had been extinguished to three-fourths of the eastern, whilst they still covered nearly the whole of the western section. But he was again answered, that an extinguishment of the whole of the Indian title was contemplated as an event that would take place at some future time, and that congress should not make permanent provisions in reference to the present circumstances of the country, but to an ulterior state of things. That the line which the committee seemed disposed to adopt, was contemplated with reference to the geographical situation of the territory, and not at all to the settlements already formed. This line, Mr. L. said, would have separated the settlements on the Pascagola river; and with a view to preserve their integrity, as also to obtain an equal division of the territory, he proposed that the line should run from the gulf of Mexico to the northwest corner of Washington county, in such a way as to throw the whole of those counties into the proposed western state; and from the point last mentioned along the Chactaw boundary to the Tombigbee river; thence up the same to the Cotton Gin Pt.; thence due north to Bear creek. Such a line, said Mr. L. he advocated before the committee, during two sittings, with much zeal, but with only partial success. He said, he had hoped to have completely succeeded, as the most influential member of the committee on that subject, was a particular friend of his, who had never opposed his wishes before, and to whom the territory, especially the western part thereof, was under great obligations, for his attention to its interests, and his defence of its character and rights.

The line ultimately agreed upon by the committee, and designated in the bill, Mr. L. observes, would have preserved the integrity of the Pascagola settlements, as he wished, but for the inference of Judge Toulmin, the representative of the Pearl river convention, who, when he perceived that the senate would certainly pass a bill with precisely the same provisions, came forward with a petition, praying that the line might be removed much farther to the west, to

the northeast corner of Hancock county, as well as he could recollect. In consequence of this petition, the bill was recommitted, and the whole question put at risk. It was on this occasion, observes M. L., that he attended closely the proceedings of the Senate. The bill was reported again without amendment; but when the senate acted upon it for the last time, some of the members, influenced by the sentiments of the judge, strenuously insisted on making the Pascagola river the line. To preserve the bill from the danger of this opposition, and of the objections to the line proposed, the gentleman on whom its support chiefly depended, moved that the line might run due south from the northwest corner of Washington county to the gulf of Mexico. This motion succeeded.

In the house, as well as in the senate, a strong disposition was manifested in favour of making the Pascagola the line. This disposition, Mr. L. said, he had to overcome; and though great efforts had been made to attach blame to him in relation to this subject, it was to his exertions, solely, that the line was not established much farther west.

Having stated these facts, Mr. Lattimore proceeded to inquire into the expediency of dividing the territory. A gentleman from Jefferson had endeavoured to show the advantage we should derive from a state with our entire limits, in the greater number of representatives in congress, and in the consequent influence it would give us in the choice of president of the United States. But, Mr. L. said, he would undertake to prove the converse of this proposition to be true. He had seen the members from the same state as much divided on many questions, as members from different states. If the territory should form two states, their respective representatives would probably agree as well with each other on local questions, as if they were all the representatives of but one state, with one entire limit.

In relation to the senate, said Mr. L., the advantages of division were very obvious. By having two states instead of one, we should have four senators instead of two. The proposed western state would then certainly have two senators to itself, and two electors of president and vice president. But without division, the western part of the state would not have even one senator, nor governor, nor seat of government, nor any general officer, except one representative to congress, unless bestowed upon us by the liberality of the eastern part of the state, which, having a decided preponderance in population and representation, would control us at will. Such a control would doubtless be exercised over us for many years. The western part of the state might, in its turn, have the same control over the eastern part, whenever the entire extinguishment of Indian titles should take place. But such changes of power and preponderance were not all desirable in a state, and he was in favour of division to prevent local jarings and strife.

Division, continued Mr. L., would give to this section of the union an additional state, and of course two additional electors of president, to maintain its political influence and rights. It was this consideration alone, said he, that had determined his opinion in favour of di-

vision as contemplated by the act of congress, as preferable to an union with Louisiana, which was a very reasonable proposition in many points of view. By such an union, this section of the United States would lose a state. By the plan of division proposed, a state would be gained.

As to the scheme of uniting the waters of the Tennessee with those of the Mobile, he would hope that it was a practicable one, and would be glad to see it carried into execution. But who, he asked, would derive the benefit of such a measure? No one in the western part of the territory. The memorialists plainly intimated that the resources of the western part were necessary to accomplish this object, although it was evident that the eastern part would enjoy, exclusively, all the advantages which it would produce. He said, that he considered this reason of the memorialists altogether in favour of division, when applied to the interest of the western part of the territory.

There were other reasons in favour of division, continued Mr. L. He begged the attention of the convention to certain provisions in the act for our admission, which appeared not to have been noticed. Here Mr. L. read the proposed contract between the United States and the state to be formed, as related to the provision for roads, from which he drew this inference,—that the western part of the territory would be scarcely able to bear its share of the burdens of government, if the whole were admitted as one state; and also the advantage we should derive from separation, in having much more ample funds for making roads through the proposed western state, as well as the probability of obtaining a great road from some part of the elder western states.

In the 5th section of the act for our admission, it is provided "that five per cent. of the nett proceeds of the land lying within the said territory, and which shall be sold by Congress from and after the first day of December next, after deducting all expenses incident to the same, shall be reserved for making public roads and canals; of which three-fifths shall be applied to those objects within the said state, under the direction of the legislature thereof, and two-fifths to the making of a road or roads leading to the said state, under the direction of congress." Such a provision as this, said Mr. L., has been made in favour of all the new states, and he had himself seen something of the advantages of it, in the great road now making from Cumberland, in Maryland, to the state of Ohio. The expense of this road is paid out of the twentieth part of the proceeds of the lands in that state, set apart for purposes similar to those above mentioned. He had travelled this road about thirty miles, over the Alleghany mountains, where one might now drive a carriage full speed at midnight. Such advantages in roads were held out to us also; but it must be understood that there was a *quid pro quo* contemplated in this provision: for it is also provided in the 4th section of the same act, "that each and every tract of land sold, Congress shall be and remain exempt from any tax laid by the order or under the authority of the state, whether for state, county, township, parish, or other purpose whatever, for the term of five years from and after the respective days of the sales thereof."

Agreeably to the last mentioned provision, the proposed new state cannot impose any tax upon lands, which may hereafter be purchased from the United States, for five years from the time they are sold. Now let it be observed, said Mr. Lattimore, that the benefit of this provision cannot be claimed as to purchases already made; and that within the limits of the proposed state, there is very little good land for sale, whilst millions of acres, he might say, would be offered to sale in the proposed Alabama territory, in the course of a few years. He thought it probable, at least, that more land would be sold within five years from this time, than is now held by all the individuals in our proposed state. What then, he asked, would be the effect of this provision, if the whole territory were admitted as one state? This, unquestionably, that the lands in the western part of the state would all be taxed, whilst nearly all those in the eastern part would be exempt. The eastern part would be by far the most populous, and yet the western part would have to bear the burdens of government. That part would govern, and this pay the expense. This inference, he said, was inevitable, and could not be denied.

But, said Mr. L., he would take another view of this subject. According to the concluding provisions of the 5th section of the act, no part of the five per cent. of the proceeds of the lands is to be applied to the purpose of making roads, until after the debt due to the state of Georgia, and the whole amount of the "Mississippi stock" are paid. Out of what lands, he asked, will these claims be satisfied? Of course, out of the first that will be sold. And where will these be? Doubtless in the Alabama territory; and unless a purchase of the Indians should soon be made within our proposed western state, the lands of the Alabama territory will satisfy the whole of these claims, and leave to us an ample fund, untouched, for making roads every where throughout the state, whenever an extinguishment of the Indian titles takes place. In case of division, this would give us a great advantage over the eastern state.

Mr. L. observed, that he would mention one other advantage, which would be secured to us by a division, in relation to roads. The 5th section, already referred to, provides for the making of "*a road or roads leading to the state.*"

If the bill contemplated the admission of the whole territory, the provision would probably be the same; and, in that case, congress would not be bound to make but one road leading to the state. If they should be disposed to make but one, to what part would that one lead? Unquestionably to the eastern part, through Georgia from the other Atlantic states. But if we are separated from the eastern part, the spirit of the provision will require that the road shall lead from the western states, with which we have the closest interests in every point of view. A distinguished western member in congress advocated a division of this territory partly with this view. He said he wished to continue their great western road to our proposed state.

He said, that the line designated by law, was not the one he wished to obtain. The one he was in favour of, and which he urged the committee to adopt, would have divided the territory into two equal parts as nearly as could well be imagined. The gentleman from

Wilkinson ridicules this line, because it is an artificial one. What is the line which this gentleman proposes? One which he would have to commence at the middle of the bay of Mobile, and run thence due north to the state of Tennessee. This line, said Mr. L., would, according to the new map in the land-office, cross the Tombigbee twenty or thirty times. He asked if this was not an artificial line? Was it not as much so as the one he had suggested? Yes, said Mr. L., very artificial; and he thought it required some ingenuity to conceive of one so exceedingly bad.

Mr. L. stated the information which he had received, and on which he relied, in relation to the difficult navigation to Mobile, and other local inconveniences of that town. He also adverted to the position of the town of Blakeley, on the opposite side of the bay, which various reasons he assigned, he inferred would certainly supersede Mobile as a commercial depot, and concluded that the latter would inevitably fall. What then, he asked, becomes of the gentleman's great commercial town? But, continued he, if it should be a place of the great importance which the gentleman from Wilkinson supposes, of what advantage would it be to us? Who on the Mississippi, Amite, or Pearl river, would carry his cotton to that market, or bring supplies of sugar or coffee thence? As to the state tax on the merchandise of the place, it was not worth naming. Let the town of Mobile be what it may, it could not be an object worthy of our attention. Indeed, said Mr. L., it would be a disadvantage to us; for if it should be so rich a place as the gentleman tries to persuade us, this very circumstance would invite the cupidity of an enemy in time of war.

The information given by Mr. Lattimore presents a luminous exposition of the local interests of the new state of Mississippi and territory of Alabama, and every thing considered, perhaps there is no local division made in the United States so well calculated to leave the respective parts a whole in themselves. Few states in the Union have more local advantages than the Mississippi. Except sugar, the most valuable staples yet produced in the United States can be raised in the lands of this state. Every spot where the soil is capable of culture, will produce cotton and tobacco. The latter, after the substances actually necessary to human existence, combines more advantages to the cultivator and to the consumer than any vegetable matter yet used by man for the gratification of his necessities, convenience, or luxury. I fancy no part of the United States is better situated for the culture and conveyance of that article to market: it is certainly the region upon and in the vicinity of the mouth of the Mississippi river, where that plant can be reared to most advantage.

The foregoing act of congress defines the limit of this state; by reference to the prefixed map, its relative position will be seen, and the variety in its climates and local positions obvious.

The present population of the state of Mississippi is at present but very vaguely known. So much increase must have taken place since the last census as to have greatly augmented the mass. At the epoch of 1810, West Florida was not divided between the two states of Louisiana and Mississippi. In that part of West Florida included in the state of Mississippi, there were in 1810 at least 5000 persons.

who, added to 31,306, would have made a mass of 36,306. The increment in the last seven years cannot be less than 2000 annually, which would swell the present population to near 50,000 people. The real number rather exceeds than falls short of that estimate.

Besides an indefinite number of smaller rivers and creeks, the Mississippi state is watered by the Mississippi, Pearl, Pascagoula, Yazoo, Big-black, Tennessee, and the western streams of Tombigbee.

The Mississippi river forms the west limit of the state, from the 31° to the 35° N. lat. or in a direct line about two hundred and eighty miles; but following the winding of the stream near seven hundred miles. The difference between the direct and river distance, exhibits the excessive winding course of the Mississippi.

Of this distance two hundred is in front of the counties of Warren, Claiborne, Jefferson, Adams, and Wilkinson. That margin of the Mississippi that is contained in the new state, partakes of the general character of the lands of that river, but less favourably situated for settlement than the right or west border. The hills approach towards the river, and confining the water, render the east side more liable to be inundated than the west. The hills reach the river, in many places forming bluffs, as at Walnut hills, Grand and Petite gulf, Natchez, White cliffs, and Loftus' heights. The high lands pursue nearly a direct course, whilst the river is extremely serpentine. Between the hills and the curves of the river, is included all the lands in the state that can be correctly considered recent alluvion. Many excellent settlements are formed along the river, the soil producing in abundance. The width of soil that can be reclaimed from inundation varies so much that no medium can be formed. The general timber found near the Mississippi, is composed of *populus angulata* (cotton wood,) *salix nigra* (black willow,) *acer negundo* (box alder,) *celtis crassifolia* (hackberry,) *juglans amara* (bitter-nut hickory,) *liquidambar styraciflua* (sweet gum,) *platanus occidentalis* (sycamore,) *fraxinus aquatica* (water ash,) and *ulmus aquatica* (water elm.) At a distance from the banks, cypress swamps are almost every where found, and frequently reach the margin of the river. The cypress swamps generally occupy the low lands, between the base of the hills and the high banks of the river. The cypress seldom comes in contact with the stream where the shores are convex. Many islands intersperse the Mississippi, between the mouth of the Yazoo and the 31° N. lat., but are mostly too low to admit cultivation. The soil of these islands is indeed extremely fertile; but no means existing to defend their surface from immersion in the spring and summer floods, the lands upon them cannot be of any considerable value, except for timber.

The Yazoo river rises in the Chickesaw country, nearly as far north as the south boundary of Tennessee. Interlocking with the head streams of the Tombigbee, the Yazoo pursues a course of a little west by south, falls into the Mississippi twelve miles above the Walnut hills, forming the north boundary of the county of Warren for about twelve or fifteen miles above its mouth. The Yazoo constitutes here also the present demarkation between the Indian country and that part of the state to which the Indian title is extinct.

Some excellent land lies upon the margin of the Yazoo river, but the banks are mostly subject to overflow; and in the interior of the country distant from the river the soil is thin, and timbered chiefly with pine.

The Yazoo is navigable for a considerable distance from its mouth; but the greatest part of its course being within the Indian country, little is known with accuracy respecting its general features.

The Big-black enters the Mississippi above the Grand gulf, forming from the Indian line to its mouth, the boundary between Warren and Clairborne counties. This river has its source between the head waters of the Yazoo and Pearl rivers; its general course being nearly southwest about one hundred and seventy miles in length. Like all other streams which drain the high table land between the Mississippi and Tombigbee rivers, the land upon the head waters of the Big-black is sterile pine woods. The banks of the river meliorate, and approximate in soil to those of the Mississippi, as the two streams approach their junction. Following the windings of the river, about thirty miles of the Big-black is within the settlements, and affords much excellent soil. The country adjacent to this stream, however, for many miles above its mouth, assumes the common qualities and varieties of that upon the Mississippi.

Between the mouths of the Big-black and Homochitto rivers, Bayou Pierre, Cole's creek, Fairchild's creek, and St. Catherine creek, enter the Mississippi from the left or east bank of that river. Two-thirds of Claiborne and one-third of Jefferson counties, are watered by the Bayou Pierre. Cole's creek, and Fairchild's both enter the Mississippi, in Jefferson county. St. Catherine creek rises near Seltzertown, on the northern border of Adams county, within which is its entire water; this creek falls into the Mississippi at the higher extremity of the White cliffs.

Homochitto river rises in the Indian country, near the N. E. part of Amite county. Many of its tributary creeks flow out of Jefferson county, and crossing Franklin county, enter the principal stream in nearly an eastern direction from Natchez. The general course of the Homochitto river is S. W. about seventy miles in comparative length; and before entering the Mississippi, flows into a lake, which once formed part of the latter stream.

Some of the most wealthy settlements in the state of Mississippi are upon the Homochitto and its tributary creeks. This river forms the limit between the counties of Amite and Franklin, and between Adams and Wilkinson. For about fifteen miles from its mouth, the banks of the Homochitto are annually overflowed, and unfit for settlement. Four or five miles below the mouth of Second creek, the arable high land commences, and continues with partial interruptions to the source of the river. All the varieties of soil in the state of Mississippi may be seen on this stream; and almost every species of forest tree growing in Louisiana may be found in its woods.

The river Buffalo rises in Amite county, flows through Wilkinson county in nearly a western direction, and falls into the Mississippi river, two miles above Fort Adams at Loftus' heights. The soil, ge-

neral aspect of the country, and natural productions, differ little on the lands watered by Buffalo, from those of Homochitto.

Below the mouth of Buffalo, the streams assume a south course. A dividing ridge, of which Loftus' heights is the southwestern prolongation, extends itself from the elevation from which flows the Yazoo and Pearl rivers, and continuing in a southwestern direction, divides the waters of the Bodge Chitto and Amite from those of the Homochitto and Buffalo rivers, and finally terminates abruptly at Loftus' heights.

This ridge is, in all its length, the separating line between the rivers and creeks that lose themselves in the Mississippi, and those of West Florida. It is also a limit of climate; a sensible change of temperature is perceivable on passing this distinguishing, though not very elevated chain of hills. Snow is more frequent in Adams than in Amite county, notwithstanding their proximity, and their occupying nearly the same latitude.

At Loftus' heights is seen the last stone or rock resting in strata, that has been yet discovered in descending the Mississippi river. The rock is a breccia, or pudding stone of evident recent formation; and only visible when the river is extremely low. The same species of fossil forms the base of the bluffs from the mouth of Ohio to Loftus' heights. The cement is argillaceous, very much impregnated with iron ore. The most limpid water gushes over this mass of breccia, but is considered unwholesome by the inhabitants, who live in the vicinity. The most curious and singular petrifications are admixed with the rock, having a perfect resemblance to those found in the state of Louisiana, in the neighbourhood of Lake Bistineau. Near the Bistineau these petrifications form a superstratum upon horizontal sand stone, or the secondary floetz of Werner: there is no reasonable doubt but that the breccia of the state of Mississippi reposes also upon a similar base.

After leaving the banks of the Mississippi, and proceeding eastward along the 31° N. lat. the first river of note that occurs is the Amite.

Amite river rises in the N. E. extremity of the country of that name; and by two nearly equal streams traverses the country in a southern course, enters the state of Louisiana, and unites about two miles south of the line of demarkation between the two states.

The lands upon the Amite are of three very distinct qualities; alluvion near the streams; that species of slopes called hammock, and the open pine hills.

Like alluvion, wherever it occurs, it is here extremely fertile, timbered with liquid amber styraciflua (sweet gum,) quercus tinctoria (black oak,) tilia pubescens (linden, or lime tree;) and many other species of wood, indicative of fertile soil.

Hammocks are generally the slopes of hills, where are pine, sweet gum, dogwood, and other trees that designate a mixed soil.

The pine forests have nothing remarkable to distinguish them from those of Louisiana; to which, in every respect, they have a perfect resemblance.

The country on the head waters of Amite river is hilly and healthy, and well timbered and watered. It is a pleasant, airy, and agreeable

region, having all the natural advantages that can render it a desirable and profitable residence to an industrious people.

Bogue Chitto and Pearl rivers have been noticed, and their waters draining a country perfectly similar to that of the Amite, it would be useless to enlarge upon them in this place.

Pascagoula river, a beautiful and important stream, rises in Choctaw country, and drains the space between the Pearl, Tombigbee, and Mobile rivers. The constituent branches of the Pascagoula are the Leaf, Chichisaw, and Dog rivers.

The western branch of Leaf river rises in Wayne county, and pursuing a S. E. course, enters Greene county, and unites with another and larger branch from the north: the united stream continues S. E. crosses the 31° N. lat., about eight miles south of which comes in, from the northeast, the Chickisawhay.

The Chickisawhay river rises in the Choctaw country; runs south, and enters Wayne and Greene counties, until near the S. E. angle of the latter, where the river turns S. W. passes the 31° N. and joins, as has been seen, the Leaf rivers. The united streams now take the name of Pascagoula, and flow S. E. by S. forty miles, and fall into the gulf of Mexico.

Dog river rises in the Alabama territory, and flowing south, through Washington and Baldwin counties, crosses the 31° N. lat., continues south, and is lost in the estuary of the Pascagoula. Only the mouth of this river is in the state of Mississippi.

Though not so long in its course, there flows in the Pascagoula as much or more water than does in the Pearl river; and as navigable streams, the preference is greatly in favour of the former. The bar at the mouth of the Pearl admits vessels of six feet draught; and when in the bay and river, that depth continues to the junction of the Leaf and Chickisawhay rivers.

The general aspect of the soil, on the waters of Pascagoula is sterile; but upon the margin of the waters a considerable surface of good farming land exists. The pine forests reach the gulf of Mexico on both sides of the Pascagoula bay. The bay is represented in our map, filled with low islands, which are void of timber. Thick woods approach to the sea-shore, however, on leaving the bay either east or west.

The border of the gulf, near the mouth of the Pascagoula river, is esteemed amongst the most salubrious places in that climate. From our own personal observation and inquiry on the spot, we are inclined to sanction this opinion. We could perceive no causes of putrid exhalation. With the exception of the bay, the country is high, dry, and well supplied with refreshing breezes from the sea. The soil of this coast is sterile, but its unfruitfulness is counterbalanced to the inhabitants, by the health they enjoy.

Here many persons retire from New Orleans in the summer months. In the progress of improvement, when New Orleans becomes more and more crowded and extensive, and when suitable accommodations are provided on the bays of St. Louis, Biloxi, and Pascagoula, an agreeable retreat will be open to those who desire to avoid the dan-

gers, real and imaginary, of a summer residence in a large commercial city, on the banks of the Mississippi.

In the interior of the country, the lands watered by the Pascagoula and tributary streams, have great resemblance to those of Amite and Pearl rivers.

A general character pervades all that part of the state of Mississippi lying east of Wilkinson county. The three kinds of land noticed in the review of Amite prevails, and with about the same proportion.

COUNTIES; THEIR NATURAL AND ARTIFICIAL PRODUCTIONS; TOWNS.

The ridge of hills that has been before described, divides the state of Mississippi into two unequal sections. The N. W. section comprises all the counties of Warren, Claiborne, Jefferson, Adams, Franklin, and the greatest part of Wilkinson, and one half of Amite. In the S. E. section are included one half of Amite, and all Pike, Lawrence, Marion, Wayne, Greene, Hancock, and Jackson counties.

These sections are of very unequal extent; the northwest containing 3,240, whilst the southeast covers an area of 9,840 square miles. The two divisions have very distinctive features of soil, climate, and natural productions. We will review each, and the contrast will appear apparent and striking.

It would be useless to give in detail the particular features of the countries included in the northwest section. A steady uniformity prevails in all the region from the Yazoo river to Loftus' heights, and even to the 31° N. lat.

The western border of the northwestern section is formed by the banks of the Mississippi. This border is intercepted by the hilly land reaching the river, as at Walnut hills, Grand gulf, Natchez, White cliffs, and Loftus' heights. There are many other places where the bluffs approach to within a very short distance of the Mississippi, as at the Petite gulf, Villa Gayosa, and Pine ridge. The most extensive Mississippi bottoms in this tract is below the mouth of Yazoo, at Palmyra; between Bayou Pierre and Cole's creek; between Villa Gayosa and Natchez, and between the White cliffs and Loftus' heights. These bottoms are in few places five miles wide, and would not average more than two and a half; which, allowing their length 200, would give 500 square miles as the entire superficies in the tract in question upon which the Mississippi waters flow. Some extent may be added for the river and creek bottoms which protrude the inundated surface into the interior. Six hundred square miles, we are induced to believe, will be an ample estimate for all the surface between the Yazoo and the south boundary of the Mississippi state, which is liable to an annual immersion from the Mississippi, or by other streams, rendered stagnant by the swell of that great river. The hilly or broken country rises like a buttress from the foregoing plain; producing a country of waving surface, though no part of its extent is considerably elevated. There are but few places in the United States where the soil affords more diversity than does the country watered by the Yazoo, Big-black, Homochitto, Buffalo, and the nume-

rous streams in their vicinity. No part of the earth is, perhaps, more congenial to the production of its particular staple, than is this region to the growth of cotton; that elegant and truly useful vegetable flourishes so luxuriantly in the warm and waving soil, that constitutes most of the superficies of the N. W. section.

After leaving the level inundated bottoms of the Mississippi, and ascending the bluffs, and for ten or fifteen miles into the interior, the surface of the country is generally composed of rich loam, and thickly timbered with

Quercus tinctoria,
Quercus alba,
Quercus falcata,
Quercus nigra,
Quercus obtusiloba,
Quercus phillos,
Quercus rubra,
Liriodendron tulipifera,
 Laurel magnolia,
Juglans amara,
Juglans myris tiorformis,
Juglans nigra,
Juglans squamosa,
Juglans laciniosa,
Laurus sassafras,
Liquidambar styraciflua,
Fraxinus aquatica,
Diospiros virginiana,
Fagus sylvestris,
Gleditsia triacanthos,
Acer rubrum,
Celtis crassifolia,
Carpinus ostrya,
Carpinus americana,
Castanea pumila,
Cerasus virginiana,
Populus angulata,
Platanus occidentalis,
Tilia pubescens,
Ulmus rubra,
Ulmus americana,
Ulmus alata,

Black oak,
 White oak,
 Spanish oak,

Pot oak, rare,
 Willow oak, rare,
 Red oak,
 Poplar,

Bitternut hickory,
 Nutmeg hickory,
 Black walnut,
 Shell bark hickory,
 Black hickory,
 Sassafras
 Sweet gum,
 Water ash,
 Persimon,
 Beech,
 Honey locust,
 Red flowering maple,
 Hackberry,
 Iron wood,
 Hornbeam,
 Chinca pin,
 Wild cherry,
 Cotton wood, rare,
 Sycamore,
 Linden, or lime tree,
 Red elm,
 Mucilaginous elm,
 Winged elm.

The *pinus rigida*, at the pine ridge eight miles to the north of Natchez, approaches within three miles of the banks of the Mississippi. The existence of the pine at that place is a singular anomaly in vegetation; its growth is confined to an area not more than twenty square miles. There is nothing in the general aspect of the country to distinguish it from the common bluffs of the Mississippi. The land is excellent, and the pine is admixed with other trees indicative of fertile soil. To the east of this tract, fifteen or twenty miles intervenes before the pine timber becomes abundant. The alluvial banks of

Fairchild's and St. Catherine creeks, bound the pine ridge to the north, east, and south, and to the west is the Mississippi bottoms.

We have not been informed, that the pine tree any where else approaches so near the margin of the Mississippi river as at Pine ridge.

The timber trees enumerated in the annexed list are found intermingled along the bluffs, upon the creek bottoms, and in fact upon every kind of land to be met with in the country.

The under growth is composed of different kinds of vines and shrubs; common wild grape, muscadine, dogwood, spice wood, papaw, *morus scabra* (Spanish mulberry,) and brakes of the *arundo gigantea*, (great cane.) This vegetable has become comparatively rare, being in great part destroyed by fire and domestic animals.

Upon land thus richly clad by nature, has arisen the fine farms that now pour wealth into the lap of their owners. Cotton is at this time, and perhaps will ever remain the staple of this country. Tobacco and indigo have both been cultivated, and the former nearly, and the latter entirely abandoned by the planters. Maize, or Indian corn, sweet potatoes, Irish potatoes, and a great variety of other vegetables, are cultivated successfully.

The apple, peach, fig, and plum, are the most common fruit; the peach and fig are most easily produced. As in Louisiana, the summer showers do much injury to fruit along the east margin of the Mississippi.

In fact, the general observations made on the fruits of Louisiana, are applicable to those of the state of Mississippi, with exception of the orange, and other fruits of the same family.

The facility with which the apple in every state of preservation can be brought down the Mississippi, will operate against any great attention being paid to its production in places where it is evidently out of its congenial climate. The production of small grain, wheat, rye, oats, and barley, will never become objects of culture where cotton can be made at the rate of 300lbs. to the acre, at a price of 20 cents or more per lb. The production of cotton on more than two-thirds of the land included in the section of which we are now treating, will rather exceed than fall short of the quantity we have already stated. More than 2000lbs. in the seed, or above 500lbs. clean cotton, has been taken from an acre in many instances that have come under our knowledge. Where flour can be procured at 10 dollars per barrel, or less, it will be purchased rather than made, by a people who are in the habit of realizing such very considerable emolument from cotton. The reciprocal advantages possessed by the people who inhabit the northern and southern regions watered by the Mississippi, are in nothing more real than in the facility with which the latter can be supplied by the former, with bread stuff, meat, and other articles of food.

In point of salubrity, if the parts adjacent to the Mississippi river are excepted, the country from the Yazoo to the 31° N. lat. is very favourably situated. The surface is dry and waving, little or no low marshy land exists; and the spring and well water excellent. The inhabitants are found to enjoy as much health as upon any spot on earth, in the same parallel of lat.

The seasons are agreeable, the autumn and winter particularly. But little of the rigours of a northern winter is experienced. We know no place, where from September to April the weather is so uniformly pleasant. The undulating face of the country prevents the roads from becoming uncommonly difficult to pass after heavy rains. Travelling is easy, and seldom long interrupted by floods.

Spring is, indeed, in all places near the Mississippi, south of the thirty-fifth degree of north latitude, less agreeable than winter. The latter has the mildness of a northern autumn; the former, to too much of the heat of a southern summer, adds the inconvenience of frequent and heavy rains.

In the northern and eastern states, there is no season answering correctly to the winter of Georgia, Louisiana, Alabama, and Mississippi. The air in the months of November, December, January, February, and March, in the latter places, is generally mild. Summer, and the early part of autumn, are the seasons when health becomes precarious.

Perhaps after all that medical men have said upon the maladies of mankind, and with all the multifarious drugs of the apothecary's shop, that the road to health is plain and easily trod. In seasons of heat, bilious complaints in their varied forms; and in seasons of cold and moisture, catarrh, asthma, consumption, and phthisic, are the scourges of the human race. Which of those two lists are the most frightful, it is difficult to determine; the latter is, however, but little known in the United States south of the thirty-fifth degree of north latitude.

Most men with whom we have conversed, who had the advantage of residing many years near Natchez, and who had previously removed from the northern or eastern state; and who of course had gained from experience the means of forming a correct judgment, have almost uniformly decided in favour of a residence in the former place. It may be replied to this, that views of interest would have much influence in this preference; but a conviction so general upon the minds of men of all professions and ages, must have a more solid basis than mere temporary interest. It is found that the human frame is less liable to lingering pain, and that life is more easily supported, where the rigours of winter are hardly known. Relieved from much severe labour, it ought not to excite surprise that men migrate from a colder to a warmer residence. If the spirit of emigration in the United States was not checked by the common, though unfounded belief, that southern situations were less favourable to health than northern, a very great change of local population would take place. As matters are and opinions are, the stream of migration is S. W. The inhabitants of the New-England states remove to Ohio; those of New-York, New-Jersey, and Pennsylvania, to Ohio, Indiana, and Illinois; those of Maryland and Virginia, to Tennessee and Missouri; and those of the Carolinas and Georgia, to Mississippi, Louisiana, and Alabama. Many exceptions to this course daily occur, but this is the usual course; and the consequence will be, that the great body of persons who daily swell the population of the states of Mississippi and Louisiana, and the territory of Alabama, come from the two Carolinas and Georgia.

It would be useless to designate particularly the counties in the section of country we have been describing; a general sameness prevails. Some difference of climate exists between the northern and southern part; but not of sufficient extent to merit notice in a statistical point of review. The same vegetables come to perfection in the counties of Wilkinson and Warren, which occupy the extremes.

The three species of soil, Mississippi bottom, bluff, and pine woods, are to be found in Claiborne and Jefferson. In Adams there is little or no pine woods, as the pine ridge, though producing the pine tree, has a soil very different from that found in pine woods, properly so called. Wilkinson possesses, towards the Mississippi, a soil extremely similar to that of Adams; but in the interior, pine occurs. Franklin being detached from the Mississippi, affords less fertile soil in proportion to its extent than any preceding counties, having more pine woods than either.

The whole of this section of the state of Mississippi, is amongst the most valuable and productive in the United States in proportion to its extent. Few spots in the world will admit a greater variety of vegetable products; there are none where the natural trees of the forest offer a greater number of species. The list annexed to this article, exhibits a part only of the most remarkable timber trees and underwood. The neighbourhood of Natchez is peculiarly rich in its botanical productions. Superadded to the species given in the list as growing upon, and near the bluffs, is the variety offered by the bottoms of the Mississippi. We have, however, in treating of Louisiana, given in ample detail the trees most commonly found upon the rich alluvion of the Mississippi, so that a further notice in this place would be useless repetition.

The geological structure of this region presents some very striking phenomena. The masses of breccia that open to the day at the bottom of the bluffs have been noticed. There can be no reasonable doubt, but that this species of rock forms the basis of the whole country. Digging wells frequently exposes large masses of loose silicious pebble and sand. Wells are seldom dug of sufficient depth to meet the breccia. The stone itself is of very different degrees of connexion; it is in some instances capable of forming mill-stones; but in general its texture is loose, and the parts separate easily. The earthquake of 1812 was sensibly felt at Natchez, affording a strong evidence that the mass of secondary rock found further to the north, extends under the superstratum far beyond where it is ever visible.

On the west side of the Mississippi, the rapids at the west end of Sicily island is the nearest place to the former river, where the schistus sandstone has been discovered. The rock in Ouachitta is perfectly similar to that found in Red, Calcasieu, and Sabine, and is the gray sandstone of the flötz formation of Werner. The loose pebble and masses of sand in many instances form its incumbent strata, and are always found in the vicinity and above the schist. East of the Mississippi, there are many reasons to consider the interior structure of earth the same as to the west. It will be seen when treating of the topography of the Alabama territory, that the southern part of that country is founded upon schistus limestone.

There is a remarkable difference in one respect, between countries whose base is calcareous, from those resting upon argillaceous materials; the latter are as noted for the quantity and excellence of their springs of fresh water, as the former is for being deficient in both respects. This distinction is not uniform, but it is very general; many striking examples could be cited. There are many places in America of secondary formation, where the decumbent stratum is carbonate of lime, where it is difficult or impossible to procure water, either from springs or wells; but there are few or none where the stratified argillaceous schist prevails; but where fresh water abounds, and if not flowing from fountains, can be procured from wells, without any very great difficulty.

The S. E. section, comprising the counties of Amite, Pike, Lawrence, Marion, Wayne, Greene, Hancock, and Jackson, have so much resemblance to West Florida, that little can be added respecting the former, that has not been anticipated when describing the latter country.

The S. E. section contains the only sea-coast embraced in the Mississippi. Except a very small extent east of Pearl, this sea-coast is high, dry land; the pine forest reaching the gulf of Mexico.

Three beautiful bays indent the shore—St. Louis, Biloxi, and Pascagoula; only the latter ever can be of any great consequence in a commercial point of view.

The islands of Malheureux, Marianne, and Cat-Island, are included in the bounds assigned to both the states of Louisiana and Mississippi. There must have been some oversight in framing the respective acts, which marked the possessions of each state.

The islands are in themselves of no great consequence; they are mere banks of sand, decorated with sea myrtle and a few pine trees. There are two good harbours contiguous to Cat-Island, but its position will render them in a great measure useless to navigation, except as a temporary shelter to vessels approaching the coast.

The chain of islands extending from the Rigolets to Mobile bay, produces a very safe and commodious navigation between New Orleans and Mobile, for vessels of a draught not exceeding eight feet. This commerce passing in front of the state of Mississippi, will be of little benefit to its inhabitants, except those residing upon Pearl and Pascagoula rivers.

The country included in the S. E. section is yet but thinly populated; and from the general aspect of the country, it may be safely concluded, that the comparative numbers on the two sections will remain nearly as they are now. In addition to a great superiority of soil, the N. W. section has many other advantages, that can never be extended to that of the S. E.

Taking a comparative view of all the territory included in this state, there are a few other states that possess an equally favourable position. The difference of soil and climate is the greatest, Georgia excepted, that can be shown by any state in the Union. Fronting on the Mississippi, and occupying the thoroughfare from New Orleans to the northern states, the state of Mississippi will ever be respectable beyond its mere nominal population.

When the Indian claims are extinguished, this state will possess 28,480,000 acres of land; some part of which equals any soil in the world, and most of it capable of becoming the residence of an active race of human beings. Upon the entire surface, cotton can be produced in abundance as a staple; whilst almost every plant necessary to human subsistence can be produced in plenty. The climate is temperate, and most part of the state elevated and salubrious. Few places have formed a more permanent basis for lasting prosperity. To secure the well being of her citizens, demands only a moderate share of talents and virtue in her future legislators; but the beneficence of nature cannot be rendered abortive, without a high degree of folly and cupidty in the administrators of her laws.

Respecting the agriculture of the state of Mississippi, little could be added, not noticed under that head in the statistics of Louisiana. The products of agricultural industry, that claim the attention of the people of the two states, do not, rice and sugar excepted, differ essentially.

Cotton.—Mr. Niles observes that,* “This great staple has grown up within a very few years. In 1791 we exported only 189,316lbs.; in 1792, 138,328lbs.; in 1793, 487,600lbs.; ten years after, 1803, we exported 41,105,623lbs.; in 1807, 64 millions; in 1810, 93 millions; in 1815, 83 millions; and for the year ending with September 1816, nearly 81 millions, as follows:—

	lbs.	cts.	valued at
Uplands,	72,046,790	at 27	} \$24,106,000
Sea islands,	9,900,326	at 47	

lbs. 81,947,116

“We have seen an anonymous estimate of the whole crop of 1816, which gives us 320,000 bales, as the whole quantity raised, viz.

In Virginia,	2,000 bales.
North Carolina,	13,000
South Carolina,	120,000
Georgia,	110,000
Louisiana, Tennessee,	} 77,000
and Kentucky,	

320,000

Which are valued thus:—

290,000 bales upland at \$75	22,050,000
300,00 Sea island 115	3,450,000

\$25,500,000

“The bale is not a determined quantity; but we are told that it may be averaged at 320lbs. This estimate then would give us a product of only 102,600,000lbs. The average of the four years export before the war, viz. for 1808, 1809, 1810 and 1811, was about 55 mil-

lions; but in 1815 we exported 83, and in 1816, 82 millions. We know that the cultivation of this commodity has been greatly extended; and if we call 80 millions as the surplus quantity over the home consumption, the whole quantity raised can hardly be less than 120 or 130 millions, it having been estimated that our factories could consume 29 millions, as they stood in 1815. These have somewhat declined, perhaps,—but household manufactures, as before observed, have greatly increased; and we shall put down the crop of last year at 125 millions of pounds, of which 13 may have been sea island.

“Of Tobacco, we exported, in 1815, 85,339 hhd. and in 1816, 69,241 hhd. the last valued at \$12,809,000, or an average of 185 dollars per hhd. For the years 1808, 1809, 1810 and 1811, the average was somewhat more than 45 000 hhd. The cultivation was declining for several years before the war, but has, since the peace, been far more rapidly extending—and we may accept 70,000 hhd. as the surplus quantity. The table before referred to, estimates the whole crop of last year at 127,000 hhd.—valued as follows:

45,000 Virginia,	}	at \$130	}	\$14,562,000		
30,000 Louisiana and Kentucky.						
7,000 North Carolina,	}	at 96				
7,500 South Carolina,						
7,500 Georgia,						
30,000 Maryland,		90				

“This gives an average of only \$116 per hhd—\$71 less than the treasury estimate of last year. But the price of the article has decreased; and this may be a pretty fair estimate of the quantity produced. The export of manufactured tobacco is not worth taking into the account.

“Sugar is becoming a very important item in our agriculture; and the time is close at hand, when it will nearly cease to be imported. Large tracts of land are continually brought into the cultivation of the cane. Mr. Darby tells us there are 250,000 acres in Louisiana fit to produce it. We have reason to believe there is a much greater quantity than that; but 250,000 acres, worked by 83,333 hands, at one to three acres, calculated to produce 1000lbs. per acre, would give us 250 millions of pounds!—a quantity that we should not know what to do with. Besides, it succeeds well in Georgia, and the most southerly parts of South Carolina. At present it is the most profitable crop of the planter—Mr. Darby estimates the product, per hand, thus:

Sugar at 8 cents per lb.	- -	\$240 per hand.
Cotton 15	- -	180
Indigo 100	- -	140
Tobacco \$10 per cwt.	- -	107
Rice 6 cents per lb.	- -	84

* This valuation is not at such a high rate, as that made at the treasury department; allowing the bales to be of 300lbs. weight each, as it is probable they were rated at.

" We have no certain returns whereby to calculate the quantity of sugar and molasses made in the United States. In 1810, the marshals returned 9,665,108 lbs. of maple sugar, and 9671 hhds. from the cane,—together about 20 millions of pounds—with 3590 hhds. or 179,500 gallons of molasses. The quantity of maple sugar made had not, probably, increased; but it may be safe to say that Louisiana now makes at least 30 millions from the cane.

" *Rice*;—the export last year was 137,848 tierces, valued at 3,555,000 dollars, 26 dollars per tierce, nearly. For the years 1809, '10, '11, and '12, the annual export was about 115,000 tierces. The estimate before referred to, gives the whole crop of 1816 as being only 110,000 tierces, valued at 3,600,000 dollars. The quantity, we think, cannot be less than 150,000. But as its home consumption comes in lieu of wheat, corn, and other grain, we shall consider it as already accounted for in the vegetable food we have supposed was consumed. The cultivation of rice appears to be declining.

The only town in the state of Mississippi worthy particular notice is NATCHEZ.

NATCHEZ, in Adams county, stands upon the left or east bank of the Mississippi, at 31° 33' N. lat. 14° 20' W. from Washington city. The site of Natchez is high and commanding. The town is laid out at right angles upon very uneven ground. Though upon a bluff of the Mississippi, the river cannot be seen from the town, owing to the elevation of the intervening hill. The waters that drain from Natchez, flow into St. Catherine creek. It is difficult to ascertain the present population of Natchez; perhaps 2500 would not be far from the number of persons now residing in that city. This town is well situated for a commercial depot; having a fertile well cultivated country in its rear. Many very wealthy merchants are established in Natchez, who carry on the cotton business extensively.

There are no public edifices of any particular consequence in Natchez. Most of the private buildings are constructed of wood, though many elegant brick houses have been erected within the last twelve years.

WASHINGTON, about six miles east from Natchez, also in Adams county, has been for fifteen years past the seat of government for the Mississippi territory. This town contains at this time, perhaps, 1000 inhabitants. It stands on the bank of St. Catherine creek, in a healthy pleasant situation, amid the most wealthy and best peopled settlements in the state. Washington has many allurements as a summer residence over any town near the Mississippi river, south of Tennessee; it is placed in a well cultivated neighbourhood, the water is excellent, the adjacent country is agreeably diversified with hill and dale, and no stagnant waters in its vicinity.

The state of society does not differ materially in Natchez and Washington. There is much in both of that urbanity that marks the people of the southern states, and strangers meet an unreserve found in every place where men have much intercourse with each other.

Monticello on Pearl river, in Lawrence county, is the present seat of government for the state of Mississippi. This town stands at 31° 33' N. lat. 13° W. lon. from Washington. It is of very recent date,

and cannot contain any considerable number of persons. As respects that part of the state in which the Indian title is extinct, the position of Monticello is nearly central; and being in a high, dry, healthy situation, this town is well chosen as the seat of legislation for the new state.

The other towns in the state are yet small, and of no other consequence than being the seats of justice for the respective counties. No city of any great extent can easily rise in the vicinity of New Orleans; its concentrated advantages will allure population and commercial capital into its own bosom, and prevent the increase of other cities within the sphere of its attraction. Some place on, or near the Mobile river, will, no doubt, become of considerable importance; but a ratio will exist between the cities situated on the respective streams on a similar scale with that between the Mississippi and the Mobile rivers.

When the state of Mississippi becomes peopled in all its extent, the seat of legislation must be placed at some point on the dividing waters of Pearl, Pascagoula, and Big black rivers.

Preserving the seat of legislation in the large commercial towns, seems to have been tacitly laid aside by the people of the United States in many instances. How far the custom of placing their legislatures as near as possible to the geographical centre of the respective states, is founded upon individual convenience, it is difficult to determine. Whatever may be the benefit of thus removing the centre of government with that of the population, a serious suit of evils arises, that can scarcely be counterbalanced by any temporary advantage. The growth of towns of this description is retarded, from want of confidence in the permanency of the only source of their prosperity.

In many instances, the very men who vote the seat of government a few miles nearer home, have exposed themselves to more expense and less comfort, without having in any manner gained benefit from the change.

The most serious, however, of all the mischiefs attending this vacillation of legislation, is in the check it gives to the advance of intelligence where it is most wanted. Schools, colleges, libraries, and printing offices, are the depositories and marts of human knowledge. They either never rise, or languish and fall to ruin, where their means of augmentation and support are withdrawn, or even in annual danger of removal.

The seat of legislation ought, like legislation itself, to rest solid and unmoveable, except for the most urgent reasons.

Those who consider a large city as the exclusive focus of intrigue, know little of human nature. Those who, in order to avoid the influence of superior information, or to save one or two days travelling, carry their archives from cities to villages, exhibit a very defective specimen of their judgment in the management of human affairs.

THE ALABAMA TERRITORY is formed out of the east part of the late Mississippi territory, and occupies almost all the valley of the Mobile and its tributary streams, and part of that of Tennessee and Pascagoula.

This territory was created by the following act of congress :

AN ACT

To establish a separate territorial government for the eastern part of the Mississippi Territory.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, that all that part of the Mississippi territory, which lies within the following boundaries, to wit : beginning at the point where the line of the thirty-first degree of north latitude intersects the Perdido river ; thence east to the western boundary line of the state of Georgia ; thence along said line to the southern boundary line of the state of Tennessee ; thence west along said boundary line to the Tennessee river ; thence up the same to the mouth of Bear creek ; thence by a direct line to the north-west corner of Washington county ; thence due south to the gulf of Mexico ; thence eastwardly, including all the island within six leagues of the shore to the Perdido river, and thence up the same to the place of beginning, shall, for the purpose of a temporary government, constitute a separate territory, and be called " Alabama."

Sec. 2. And be it further enacted, That all offices which may exist, and all laws which may be in force, in said territory, within the boundaries above described, at the time this act shall go into effect, shall continue to exist, and be in force, until otherwise provided by law. And the president of the United States shall have power to appoint a governor and secretary for the said Alabama territory, who shall respectively exercise the same power, perform the same duties, and receive for their services, the same compensation as are provided for the governor and secretary of the Mississippi territory. Provided, that the appointment of said governor and secretary, shall be submitted to the senate for their advice and consent, at the next session of congress.

Sec. 3. And be it further enacted, That there shall be appointed an additional judge of the Mississippi territory, who shall reside in the eastern part thereof, and receive the same compensation as the other judges, and that the judge appointed by virtue of an act, passed the twenty-seventh day of March, one thousand eight hundred and four, for the appointment of an additional judge for the Mississippi territory, together with the judge appointed by Madison county, and the judge to be appointed by virtue of this act, shall possess and exercise exclusive original jurisdiction in the superior courts of Washington, Baldwin, Clarke, Monroe, Montgomery, Wayne, Greene, Jackson, Mobile, Madison, and such new counties as may be formed out of them, and shall arrange the same among themselves from time to time : Provided, that no judge shall sit more than twice in succession in the same court, and that the other judges of the Mississippi territory shall

exercise, as heretofore authorized by an act of Congress, or of the territorial legislature, exclusive jurisdiction in the superior courts of the other counties. That a general court, to be composed of the judge appointed by virtue of the act of the twenty-seventh of March, one thousand eight hundred and four, the judge appointed for Madison county, and the judge to be appointed by virtue of this act, or any two of them, shall be holden at St. Stephen's, commencing on the first Mondays of January and July, annually; who shall have the same powers of granting writs of error to the superior courts of the counties mentioned in this section, or which shall hereafter be formed in the eastern division of the territory, which was given by the act for the appointment of an additional judge, passed the year one thousand eight hundred and four, to the superior court of Adams district, and which shall possess exclusively of the courts of the several counties, the federal jurisdiction given to the superior courts of the territories, by an act passed the third day of March, one thousand eight hundred and five, entitled, "An act to extend jurisdiction in certain cases to the territorial courts."

Sec. 4. And be it further enacted, That the governor to be appointed by the authority of this act, shall, immediately after entering into office, convene at the town of St. Stephens, such of the members of the legislative council, and house of representatives of the Mississippi territory, as may then be the representatives from the several counties within the limits of the territory to be established by this act; and the said members shall constitute the legislative council and house of representatives for the aforesaid Alabama territory, whose powers, in relation to the said territory, shall be until the expiration of the term for which they shall have been chosen, or until congress shall otherwise provide, the same in all respects as are now possessed by the legislative council and house of representatives of the Mississippi territory; and the said legislative council and house of representatives of the Alabama territory, so formed, shall have power to nominate six persons to the president of the United States, three of whom shall be selected by him for members of the legislative council, in addition to the number which the said territory may possess agreeable to the foregoing provision of this section. The said legislative council and house of representatives shall have power to elect a delegate to congress, who shall, in all respects, possess the same rights and immunities as other delegates from territories of the United States.

Sec. 5. And be it further enacted, That this act shall commence and be in force so soon as the convention, the appointment whereof has been authorized by congress at their present session, for that part of the Mississippi territory lying west of the territory herein described; of which act of convention, the governor of the Mississippi territory for the time being, shall give immediate notice to the president of the United States, who shall thereupon forthwith proceed to the execution of the powers vested in him by the second section of this act; but in case said convention shall fail to form a constitution and state government as aforesaid, then this act shall become null and void, ex-

cept so far as relates to the third section thereof, which shall take effect and be in force from and after the passage of this act.

Sec. 6. And be it further enacted, That all persons who shall be in office, within the territory hereby established, when the said convention shall have formed a constitution and state government as aforesaid, shall continue to hold and exercise their offices, in all respects as if this act had never been made; and the governor and secretary of the Mississippi territory, for the time, shall continue to exercise the duties of their respective offices, in relation to the territory hereby established, until a governor and secretary shall be appointed therefor, in pursuance of this act.

Sec. 7. And be it further enacted, That all judicial process in the said territory of Alabama, shall be issued and bear test as heretofore; nor shall any suit be discontinued, or the proceedings of any cause stayed, or in any wise affected by any thing contained in this act, or in the act, entitled "An act to enable the people of the western part of the Mississippi territory to form a constitution and state government, and for the admission of such state into the Union on an equal footing with the original states."

Sec. 8. And be it further enacted, That the town of St. Stephens shall be the seat of government for the said Alabama territory, until it shall be otherwise ordered by the legislature thereof.

Sec. 9. And be it further enacted, That whatever balance may remain in the treasury of the Mississippi territory, at the time when the convention authorized to form a constitution and state government for the same, shall be divided between the new state and territory, according to the amount which may have been paid into said treasury, from the counties lying within the limits of such state and territory respectively.

Approved, March 31, 1817.

The Alabama territory lies between $30^{\circ} 12'$ and 35° N. lat. Its greatest length from Dauphin Island to the southern line of Tennessee is three hundred and thirty miles; its greatest breadth about one hundred and fifty miles; the whole extending over 45,500 square miles, or 29,120,000 acres.

The Alabama possesses a very great diversity of soil, climate, and natural, vegetable, and mineral productions. Occupying the valley of the Mobile and its tributary streams, together with a fine body of land upon both banks of the Tennessee river, its position in an agricultural and commercial point of view is extremely advantageous. From the circumstance of so much of the area included within its limits, having been purchased from the savages at the time of the creation of this territory, its political birth is extremely auspicious. And by an accumulation of benefits, the moment is very favourable for an instant and great influx of inhabitants.

Ten years can scarcely elapse, before the Alabama must assume her rank amongst the states of the American Union, and close the column of republics from the Canadian lakes to the gulf of Mexico, and from the Atlantic ocean to the Sabine river.

Having the finest river to its length in all North America, and exten-

sive superficies of excellent soil, the Alabama presents a most desirable field for youthful enterprise.

The counties in the Alabama territory, are, Madison, Elk, Blount, Shelby, Clarke, Washington, Baldwin, Jackson, Mobile, Montgomery, Monroe.

Of the above counties, only Mobile, Montgomery, Monroe, Baldwin, Washington, Clarke, and part of Shelby and Jackson, are included in our map. Jackson county is cut by the provisional division line between the state of Mississippi and Alabama territory. Shelby, lying north of Clarke, extends to the highlands between the Tennessee and Tombigbee rivers. Mobile occupies both banks of the river of that name, being part of the late West Florida.

The population is no doubt every where in these counties augmented since 1810; but to Clarke, Monroe, Shelby, and Montgomery, almost all the inhabitants have removed within the last six years, and into the three latter, since 1815.

It would be useless to extend our geographical notice beyond the limits of our own map. The N. E. part of the territory is yet in the Indian country; of course neither well known or interesting at this time.

The following sketch of this country appeared in the public prints a short time past. It appears to give more ample and correct information of the country upon the Coosa, Tallapoosa, and Alabama, than any account yet made public. We never extended our own personal observations past of the Tombigbee. We have considered this description superior in point of authenticity to any other information we could procure. It is, therefore, inserted entire, with our acknowledgments to the author.

"At the present period, when the spirit of emigration to the lately ceded territory prevails to a very great extent, a correct topographical description of any part of it cannot fail to be acceptable.

"Having been engaged for a considerable time past in surveying public land in several parts of the late Creek cession, the account here offered is chiefly the result of actual observation, aided by information derived from other surveyors.

"The Alabama is known to be the principal river running through this country. Its general course from its head, or junction of Coosa and Tallapoosa, to its junction with the Tombigbee river, is nearly southwest; but in its course thither, it makes one remarkable bend and two others of less note.

"From the junction of Coosa and Tallapoosa rivers to the mouth of Cahaba, a distance by land of about 60 miles, the river runs but a little south of west—thence to the Alabama heights, or Fort Claiborne, by land of 60 or 70 miles, its course is but a little west of south—thence to its junction with Tombigbee, about 60 miles further, its course is nearly southwest. From this point to Mobile, distant about 40 miles, the river runs nearly south again. Fort Claiborne is at the head of schooner navigation. Large boats ascend from thence up to Fort Jackson, by the Coosa river. The distance to Fort Jackson, by the Tallapoosa river, is five miles less than by

the Coosa, and the navigation throughout the winter and spring is good. In dry seasons, however, there is not sufficient depth of water for the Alabama boats. The Coosa river has a fine deep channel from its mouth, three miles by land below Fort Jackson, up to Wetumpka, or the Great Shoals, five miles above the fort. Here, in the present state of things, we may reckon the head of navigation on this river. From the falls, this river is the Indian boundary up to the mouth of Will's creek, 120 miles, or thereabouts.

"The Tallapoosa is navigable, except in dry seasons, up to the Great Falls, a few miles above Tookabatche, and about 35 miles above Fort Jackson. From the falls down to Fort Jackson, the general course of the Tallapoosa is nearly west.

"The waters in these rivers, particularly the Tallapoosa and Alabama, are subject to remarkable periodical elevation and depressions, owing entirely to this circumstance :—Many of their tributary streams, originating in, and passing through a country founded on a bed of lime stones, are large and respectable water-courses in the winter and spring, but in the fall months become perfectly dry. In the Alabama and Coosa rivers, however, there is always a sufficient depth of water for boating.

"Proceeding southeastwardly along the boundary line, from the mouth of Lime creek, and up the same towards Chataboocha, at the distance of about 40 miles from Tallapoosa, we come to the ridge separating the waters of Tallapoosa and Alabama, from those of Conecuh and Escambia. This ridge proceeds westwardly in a direction nearly parallel with the rivers Tallapoosa and Alabama; but bending less to the south, it approximates very fast towards the river below its bend, near the mouth of Cahaba, and becoming less elevated and distinct, it is finally cut off by the grand sweep of the river along the Alabama heights.

"This tract of country, bounded on the north and west by the river, on the east by the boundary line, and on the south by the ridge, is probably the largest body of good land to be found any where within the limits of the treaty, south of Tennessee river. It comprehends an area of sixty townships, or about 2000 square miles, a considerable portion of which is of the first quality, and there is but little of it that will fall below the rank of good second quality. About one-half of the townships now offered for sale lies in this district.

"The river cane bottom land, we suppose to be equal in fertility to any on the continent, and may average in width a half, or three quarters of a mile, the river winding through it in a serpentine course, and leaving the cane land sometimes on this side and sometimes on that. The outside of the swamp joining the high land, as on most rivers, is low, wet, and cut up with ponds and lagoons. Next to the river swamp, and elevated above it by a bluff of from 10 to 15 feet in height, we enter upon an extensive body of level rich land, of fine black, or chocolate coloured soil. The principal growth is hickory: black oak, post oak, dogwood, and poplar, are also common, but pine timber is rather scarce. This portion of land is interspersed, more or less, with reed marshes, out of which issues constant running water; and also in many places with flat, wet weather ponds, holding

water in winter, and becoming dry in summer. After this, comes in the prairies. These are wide spreading plains, of a level, or gently waving land, without timber, clothed in grass, herbage, and flowers, insulated by narrow skirts of rich interval wood land; and exhibiting, in the month of May, the most enchanting scenery imaginable. The soil is generally of a fine black rich cast, and has the appearance of great fertility. Should they prove to be as productive as the soil promises, they will be of great value, as the expense and labour of clearing land will here be saved; and the soil being of such a quality as will not wash away, the land must be very durable. These prairies extend nearly, or quite to the ridge; and as the country is open, dry, and airy, it promises to be healthy. The only objection to this part of the country seems to be the want of water. This inconvenience, however, may probably be removed to a considerable extent by digging of wells. This objection applies to most of the tract within the limits mentioned, except the land immediately on the river, and distant from it from one to three miles. In this range, there is an abundance of cool and pleasant spring water, issuing from the bluffs and reedy heads already mentioned. Several large creeks water this district, which will afford good winter navigation for small boats, of sufficient size to transport the produce of the incumbent farms to the river. The principal of these are the Catoma, Pincohna, Pohlala, and Big swamp creek, all of which afford extensive bottoms of rich cane brake and beech swamp. Families living on and near the river, except in select places, will be subject to intermittent and bilious fevers; but they have hitherto appeared to be of a mild type.

"After passing the ridge we enter into a country of very different character and features from that just noticed. It is generally pine land, intersected with innumerable creeks, rivulets and branches, running southwardly into the bay of Escambia. The head waters of Conecuh, which is the principal river emptying into the bay, spread out over a large extent of country. The creeks and branches have wide swamps, and are in general too low and wet for cultivation. They abound in the finest timber, particularly white oak of a superior growth, swamp red oak of uncommon size and beauty, beech, maple, poplar, gum and cypress. The undergrowth is reed and cane, palmettos, rattan, grape vines, and china brier. These swamps afford the finest stock range imaginable, particularly for hogs; as besides the immense quantity of oak and beech mast, there is a great variety and plenty of ground nuts and roots, easily attainable in the soft soil or mud of those swamps.

"On the margins of the creeks there are generally found strips of good land from a quarter to a half mile wide. In places it is very rich, bearing oak, hickory, ash, and sometimes walnut trees. Next to this is very often found a skirt of rich pine land, dark mulatto soil, with hickory, buckeye, and shrubbery characteristic of rich land.

"From this kind of land there is a gradual declension to the poor pine woods. On the heads of the numerous branches of Conecuh approaching the ridge, there is a skirt of oak and hickory land five or six miles,

running parallel with the ridge. The soil is mostly of a free, soft, gray quality; sometimes it is found rich, strong and red, clothed with an agreeable mixture of oak, hickory, pine, poplar, ash, chestnut, and dogwood, &c.

"The Sepulgas, Burnt-corn, and Murder creek, lying more to the west, it is said, afford larger bodies of good land than Conecuh: there are none, however, so far as we can learn, very extensive on any of these waters.

"Of the extent of the navigation of Conecuh, we have no satisfactory account. The surveyors, however, who ran the parallel townships, from the Spanish line progressively to the north or up the river, found it no where passable with their pack-horses within fifty miles of the Spanish line, without swimming their horses and constructing rafts for their packs. They report it to be a fine deep channel, with a slow eddy current. At the distance of about fifty or sixty miles above the line of demarkation, it divides into two large creeks, and here is probably the head of boat navigation. This whole tract of country is abundantly supplied with perennial springs of excellent water. Your approach to the water is always announced by the wide spreading reed brakes, which uniformly cover the wet bottoms of all the branches, and afford an almost inexhaustible range for cattle.

"No country affords a better prospect of health. From the nature of the soil, however, the population must be thin.

"Of the mineral productions of this country, the most remarkable is the large quantity of stone, having the appearance of volcanic lava, lying in broken fragments, covering the tops and sides of many of the hills composing the ridge, exhibiting evident marks of having once been in a state of fusion. There are also several places on the head branches of the Conecuh, where there are indications of iron ore in considerable quantities, and judging of it from its weight and ferruginous aspect, it is probably rich.

"Among the small prairies in the western extremity of their range, there are inexhaustible quarries of limestone or solid blocks of white hard calcareous rock. By burning a piece of this stone in a blacksmith's forge, and slaking it, we found it to effervesce rapidly, and making strong and beautiful lime. Amongst this limestone there are also found many testaceous petrifications,* particularly the oyster, clam, and cockle shells, some of which are remarkably large, retaining their original form, and exhibiting, on their outside, all the lines and niches of the shell in its natural state, and on the inside almost as perfect a polish as when the shell was first opened.

"These beds of limestone (carbonate of lime,) are great natural curiosities, whether they are considered in regard to their origin, or the process by which these substances have been changed from their original texture to their present state of petrification; and while they afford a rich subject for speculation for the naturalist and phi-

* This is the same kind of recent limestone found in all the valley of the Mississippi. It forms the superstratum at the falls of Ohio. These beds of limestone frequently alternate with the flint sandstone: in fact, the two rocks are of a similar formation, but differ in their component parts.

losopher, they also supply the mechanic with an excellent material in masonry and architecture.

"Of the lands lying to the north and west of the Alabama and Coosa rivers, but little has been surveyed, and consequently but little of them is known: an actual survey of this country, however, will soon be made, when its topographical character will be ascertained.

"With respect to that part of the ceded lands which falls within the limits of Georgia, we have no authentic information, but what is derived from the survey of its boundaries; and even here we are deficient in part, not having the traverse of the Chatahooche river, which is the western boundary of this tract, from the mouth of Summochecola to the mouth of Flint river. The estimated distance, however, between these two points is 60 miles; and the course nearly south. Taking this at present, for the fact, we have the land in the form of a trapezium, whose average length from east to west is about one hundred and eighty miles, and its average breadth from north to south about sixty miles. These dimensions will give a product of 11,900 square miles, or 7,616,000 acres. Judging of the interior of the country from what has been seen on its boundaries, and the roads passing through it, except what lies between Flint river and Chatahooche, all the rest could not be sold for what it would cost the state to survey it. What lies between the Flint and Chatahooche rivers, however, deserves more attention. In order to form some estimate of the quantity of land comprehended in this district, we must ascertain as nearly as practicable its dimensions. The distance from the mouth of Summocheicola to the mouth of Flint river, we have supposed to be sixty miles, course nearly south. From the mouth of Summocheicola, on the boundary line to Flint river, the distance is ascertained to be sixty miles and six perches east. Thus we have two sides of the tract, sixty miles each, intersected nearly at right angles.

"Flint river makes a large curve eastwardly or outwardly. This is inferred from its relative position with the Chatahooche at three several points above. On the Oakfuske trail, the distance across from Flint river to the Chatahooche, is about thirty miles. On the Federal road running nearly west, and thirty or forty miles lower down, the distance across is fifty-seven miles. On the boundary line, sixty or seventy miles below the road, it is sixty across. There must then be a considerable bend in the river somewhere below the line. This bend is probably at the limestone bluff, twenty or thirty below the line, as it is represented in Mr. Melish's late improved map of the United States.

"From Chatahooche on the line to Flint river, there is about a third of the distance good land. In one place, particularly, between Herod's creek and Kitchaphone, (a large creek,) a distance of seventeen miles, there is a body of oak and hickory land of a good second quality, finely timbered, and lying sufficiently level, extending without a break, from Herod's creek, to within a mile of the large creek Kitchaphone, a distance of sixteen miles. In this land we found no water crossing the line between the two creeks. Water was found, however, on the south side of the line. Thence to Flint river

the land is generally poor, except about half a mile on the river, which is a fine, soft, gray land, well timbered, and near the river, of a rich soil.

"Between the two rivers we cross five large creeks, each of which affords more or less good land, and on one or two of them (Kitchaphone and Amakulla) there is a prospect of good mill seats.

"Proceeding from the line down towards the point, I am told the proportion of good land increases; but be the proportion of good land more or less, as it is the only part of the whole tract received from the general government that will afford any revenue, it would be well for the state to make some disposition of it, and bring the funds thence arising into operation.

W. ROBERTS."

There is an elongation of the Alabama territory south of the 31° N. lat. and lying between the east boundary line of the state of Mississippi and the Perdido river. This tract covers about 3850 square miles, including Mobile bay, and the islands Dauphin, Massacre, Petititbois, together with the expanse of water between the islands and the main land. This tract is formed out of a part of West Florida, and is of more importance from its position, than from either its extent or productions.

Mobile bay is by far the most commodious entrance to the interior of the country that exists within the limits of the United States upon the gulf of Mexico. A long point of low sand-bar projects from the eastward, and comes within less than three miles of Dauphin island; this island is about five miles long, of a triangular form; it is low, sandy, and barren. There are two entrances into Mobile bay; the main pass between Dauphin island and Mobile point, and pass au Heron, between Dauphin island and the main shore. The main pass is narrow and circular, winding round Mobile point, and being close on shore, forces vessels to pass within half gun shot of the point. The intermediate space between the pass and the east point of Dauphin island is shallow. At high tides, eighteen feet water is found on the bar. The pass au Heron or inside passage has only six feet on its bar, but affords sufficient depth for schooners and other smaller vessels trading between Mobile river and New Orleans.

MOBILE town, and Fort Condé, stands on the west side, at the head of the bay; the site is elevated fifteen or twenty feet above tide water, and is dry and solid. The approach to Mobile is rendered in some measure difficult, from a low grassy island lying opposite the town. There is a good shelter for vessels within the island, and depth of water to permit lying near the bank.

It is doubtful whether, as a commercial depot, the site of Mobile is well chosen; the country in its rear is, for a considerable distance, barren. The Tensaw, or eastern branch of Mobile river, is deeper and wider than the western, and, perhaps, more suitable to have on its banks the trading mart of this noble stream.

All the surface drained by the Tombigbee, Black Warrior, Alabama, Coosa, Tallapoosa, and Cahaba, exceeds 49,000 square miles, 26,000,000 acres. Some place near the head of Mobile bay must become an emporium for the commerce of this wide region.

Fort Stoddert is situated on the west bank of the Alabama: it is a place of little note.

FORT ST. STEVENS, the seat of government for Alabama territory, stands on the west bank of Tombigbee, at the head of schooner navigation; is a very thriving town, and will, no doubt, increase rapidly in extent and commercial importance.

HUNTSVILLE, in Madison county, is a thriving village, seated amid a wealthy and industrious settlement.

The other towns or villages of Alabama territory are yet in their infancy; nothing can be anticipated respecting their future progress.

MISSOURI TERRITORY. This territory, in its most extended sense, includes all of Louisiana not comprised within the limits of the state of Louisiana;* but as only a very small part of this immense region is yet purchased from the native savages, we will, in this work, notice only those parts to which the settlements of the whites are extended.

If the northwestern limit of the state of Louisiana is supposed to be continued north, it would intersect the Missouri fifteen or twenty miles below the mouth of the Kansas river, at $39^{\circ} 10'$ N. lat. $16^{\circ} 55'$ W. lon. from Washington city. This line would leave to the eastward all establishments yet made by the people of the United States in the Missouri territory, except upon the banks of the Missouri and Mississippi rivers. Assuming the foregoing line as the west boundary of the settled part of Missouri territory, it would be bounded thus: on the north, by the 40° N. lat.; N. E. S. E. and E. by the Mississippi river; and south by the state of Louisiana.

Statistical Table.

	Population in 1810.	Chief towns.
District of Arkansas,	874	
St. Francis,	188	
New Madrid,	3,103	New Madrid.
Cape Girardeau,	3,888	Girardeau.
St. Genevieve,	4,620	St. Genevieve.
St. Louis,	5,667	St. Louis.
St. Charles,	3,505	St. Charles.
	20,845	

Of this region, 82,600 square miles lie south, and about 16,000 north of the Missouri river; the entire area spreading over 98,600 square miles. Nature has divided the Missouri territory† into two very distinct portions, but unequal superficies. A ridge of hills leaves the Mississippi river within a short distance above the mouth of Ohio; and extending southwest, divides the waters that flow south into the St. Francis and White rivers from those whose courses are directed northeast of the Missouri and Mississippi rivers. The southern section is the most extensive, and contains at least as great a portion of good land as the northern. The former is watered by the streams

* See page 3.

† When the Missouri territory is named in this treatise, the part defined in the text is to be understood.

of Red, Ouachitta, Arkansaw, White, Mississippi, and St. Francis; the latter by the Osage, Missouri, Merrimack, and Mississippi rivers.

The *Red river* merely touches the Missouri territory, and waters so small a part of its surface, that it can add but little to the topographical features of the country. The *Ouachitta* has been described.*

The *Arkansaw* is, after the Missouri, the longest, and in some seasons the largest branch of the Mississippi † This great river rises above 41° north lat. and 33° west lon. from Washington city; and enters the Mississippi at 34° north lat. and 14° west lon.; consequently flows through seven degrees of latitude, and nineteen of longitude, or upwards of eleven hundred miles in a direct course, and about one and a half that distance, following the stream. The *Arkansaw* greatly exceeds in length either the Mississippi proper, or Ohio. That part of *Arkansaw* that traverses the Missouri territory is skirted, in great part, by extensive prairies. Spurs of the Masserne mountains often reach the river. It may be remarked as singular, that to the extent of upwards of three hundred miles in the lower part of the *Arkansaw*, its valley is confined merely to the stream of the river; the waters of the *Ouachitta* on one side, and *White river* on the other, rising almost from the very margin of the *Arkansaw*.

The land upon the *Arkansaw*, in the Missouri territory, is in great part alluvial: and where not subject to overflow, excellent.

The timber corresponds nearly to that of the state of Mississippi, in similar relative situations.

White river may be considered, as far as productive soil is concerned, one of the principal streams of the Missouri territory. This river is formed by the junction of *Black river*, and *White river* properly so called, and falls into the Mississippi thirty miles above the *Arkansaw*. Without estimating the particular bends, the *White river* is about four hundred miles in length, following the main stream, and also four hundred by the valley of the *Black river*.

The region watered by *White river* appears to be composed of immense strata of limestone and marble; the decomposition of which produces a most fertile soil. Some prairies exist on the *White river*, but are neither very fertile nor extensive. A very great similarity exists between the *White river* lands and those of Kentucky, Indiana, and West Tennessee.

The lands are well adapted to the culture of cotton: that plant, however, is here more liable to be destroyed by frost than in the states of Louisiana and Mississippi; but owing to more elevated shelter, less so than in a similar latitude in Tennessee.

With very little exception, the *White river* lands are public property. A considerable number of families are settled on the various branches of this stream, but mostly on public land.

Until the date of the cession of Louisiana to the United States, *White river* appears to have been but very imperfectly known. The French and Spanish settlements seldom extended far from the margin of the rivers, and were scattered, weak, and defenceless. Those nations appear to have had a much better knowledge of the manner

† See page 88 and sequel.

† See table, page 14.

of conciliating the savages than the English possess, or than has been evinced by the government of the United States. No such dispersed settlements of English or Americans, as the French and Spanish posts on the Mississippi and its tributaries, could have existed a century amongst powerful tribes of savages.

The country watered by White river, has not been visited by any person whose observations have been published, or who was competent to give a correct detail of its metallic productions. Like other regions where sketz* limestone forms the greater part of the substratum, coal may be very confidently expected to exist. Salt and gypsum must also form part of the fossil materials of this country.

Its greatest natural wealth, however, is its extremely productive soil and moderate climate. In every respect, in point of agricultural, commercial, and political advantages, this is a place of great, and we anticipate, not delusive promise.

St. Francis' river rises about one hundred miles northwest of the mouth of Ohio; its general course is nearly south, receiving several streams from the east; one of which appears to have been an ancient outlet of the Mississippi. The country on St. Francis is not either so fertile or extensive as that watered by White river. The entire length of the former is about two hundred miles, and falls into the Mississippi ninety-two miles above the mouth of Arkansas.

The intermediate country between the White and St. Francis rivers is low overflowed land for a distance of upwards of one hundred miles above their mouths. The same remark is applicable to the lands between the St. Francis and Mississippi.

Upon the margin of the Mississippi, in this part of the Missouri territory, the soil is similar to that found to border that stream from the mouth of Ohio to within forty miles of the gulf of Mexico.

Osage river, rises in the same ridges with the main stream of the grand river of Arkansas, and flowing northeast about four hundred miles in a direct course, enters the territory of Missouri, through which it flows two hundred and fifty miles, and enters the Mississippi at $39^{\circ} 40'$ north lat and $91^{\circ} 50'$ west lon. from Washington city.

Though contiguous to the country watered by White river, the climate on the Osage is sensibly colder. As soon as the dividing ridge between those two streams is passed, a change in vegetation and the seasons is apparent. Here, for the first place, from the gulf of Mexico, appears to commence a region in every respect congenial to the growth of wheat, rye, and other small grain. Though these grapes will grow to the southward of this latitude, they are evidently out of the situation most suitable to the perfect developement of their farina; and except in positions where elevation compensates tropical proximity, they expend in stalk, what is lost in the seed. It has been remarked in this treatise, that it is doubtful whether the apple and grape will come to perfection in the same place;† and the same remark may be applied to wheat and rice, and extended perhaps to wheat and cotton. Nature is bountiful, but seldom prodigal of her gifts to any one

* *Flatz*, or *flatt* a term used by Werner, to designate rocks lying in a horizontal position, in contradistinction to those that are more or less inclined.

† See page 28, note.

spot. The same place which is remarkable for the production in great quantity and perfection of any one article necessary to human comfort, is commonly as remarkable for the entire want of many others. Ought we to seek farther for the origin of commerce?

The country watered by the Osage river is generally prairie; some spots are extremely fertile; but from the united testimony of all persons who have visited this region, it is generally poor, gravelly, and badly watered. The same remark may be extended to the northern parts, drained by the White river waters.

West of the line of demarkation, between the land sold by the Osage Indians, and that still possessed by that tribe, the country is very imperfectly known. The notes given by Mr. Brown, who ran the Osage line,* and that inserted in Melish's map, from the information derived from Mr. Louis Bringier,† there is an entire discordance. The notes of Mr. Brown deserve infinitely more respect than Bringier's conjectures.

The arable soil of North America experiences a total change about two hundred miles from the Mississippi river. Beyond that limit an extensive desert commences, which extends to the Pacific ocean. Though this vast region is not an extended uninterrupted expanse of unproductive land, yet the greatest part of the distance is prairie, devoid of timber or a hard gravelly soil. The rivers are remarkable for their great length and little water. No lakes of any note are found; and, in seasons of dry weather, an extreme want of water is experienced by all persons who traverse this uninviting waste.

The banks of the Missouri are, like those of the Mississippi, alluvial, and, if we give full credence to the accounts of Lewis and Clark, they are very subject to inundation. From every source of information on the subject, we are led to believe, that the banks of the Mississippi, below the mouth of the Missouri, resemble those of the latter rather than the former above their junction.

The peninsula between the Mississippi and Missouri, for about forty miles above their junction, is an extent of first rate land. Above and beyond the foregoing limit much good land still exists; but more scattered and covered with prairies. The country is indeed but vaguely known, and documents are wanting for particular description.

The Merrimack is a small unimportant stream, rising between the Missouri and heads of St. Francis and White rivers. Its course is nearly east, and it is about 150 miles long.

Settlements—Towns—Improvements—Agriculture.—The first settlement of note in the Missouri territory advancing from the state of Louisiana, is at and near the Hot Springs on Ouachitta. This place was uninhabited until about 1805, when a few settlers established themselves upon the Ouachitta and the waters of Little Missouri. The emigration to this remote spot has continued annually since the foregoing epocha. Some families have advanced to Red river;—the whole number must now exceed one thousand.

Between the new settlements on Ouachitta and the ancient French post on Arkansaw, a mountainous and barren wilderness intervenes.

* Brown's Western Gazetteer, p. 169.

† See Melish's Geographical Description, page 11. Second edition.

The post or town of Arkansaw is about forty-five miles above the entrance of that stream into the Mississippi. This is one of the most ancient establishments in Louisiana, being formed before the beginning of the last century. Its advance has not been in proportion to its duration. It has remained poor and inconsiderable, like all other places where the inhabitants depend upon hunting, and trade with savages for their subsistence and commerce. The inhabitants are mostly French, many of them of mixed blood. The Quapa tribe of Indians, the former residents of the country, have dwindled to an inconsiderable remnant. Much of the land adjacent to the settlement is fertile, but too flat, and consequently liable to submersion. The prairies are extensive. Proceeding westward of the town of Arkansaw the wood and fertile soil gradually decline, and are succeeded by the interminable barren prairies upon Arkansas, Kansas, and Plate.

It has been observed, that the country included between the White, St. Francis and Mississippi is generally low and annually inundated. The banks of the streams are the most elevated parts, but are themselves liable to inundation. The streams interlock in a thousand mazes, and in every respect present a similar picture with the overflowed country west of the Mississippi river, in the state of Louisiana.

Wherever the land is above, or can be defended from high water, it possesses the character common to alluvion; is a deep fertile loam, clothed with trees of the largest growth, of similar species found on the same kind of soil and situation in Louisiana.

The settlements yet made on St. Francis are very inconsiderable. Upon the Mississippi the land is higher, and commercial facility greater than in the interior; of course it is there that the most extensive establishments have been formed. The town of Little Prairie, thirty miles below New Madrid, suffered by the earthquake of 1812; previous to that epoch there were, perhaps, two hundred souls in the village.

New Madrid has received a celebrity that must astonish those who ever visited the place in open day. The ground upon which the town stands is something higher than the ordinary bank of the Mississippi, but is exposed to the ravages of that stream, to whose force it has, in a great measure, yielded. The town is environed, both above and below, with stagnant muddy creeks. When to these natural impediments were superadded the usual policy of the Spanish government, no wonder need be excited at the little progress of this town from 1787, the epoch of its foundation, until 1803, when it was taken possession of by the United States. Since the latter period, the advance of this place has been retarded by the natural inconveniences of its local position.

The country between the Arkansaw and the mouth of the Ohio, has been, by some, represented as peculiarly insalubrious. We are disposed to consider this region as in every respect similar to other parts contiguous to the Mississippi, where the local features are of a like nature. No reason can be easily shown, why a marked difference in point of health should be experienced by the inhabitants of two or more places situated, to all appearance, in a similar manner.

It is very difficult to form any correct estimate of the number of

people included in the scattered settlements of Arkansaw, White, and St Francis rivers. In 1804, the white people between Ohio and Arkansaw were considered at about fourteen hundred; they have, no doubt, greatly increased since, but their real number at this time can scarcely be conjectured.

The objects of culture of the people of this tract, are cotton, maize, wheat, flax, and hemp. To the production of all those articles, wheat excepted, the arable land is well adapted. During the epocha of the French and Spanish governments, and in some measure since the establishment of the U. S. authority, Indian traffic and hunting retarded the advance of agriculture. More rational ideas are gaining ground, and will no doubt contribute to hasten the prosperity and secure the happiness of the inhabitants.

Ascending the Mississippi from the mouth of Ohio thirty miles, the traveller finds Cape Girardeau. Twelve miles below the town, the high lands reach the left bank of the Mississippi for the first time, in a distance of 1136 miles from the mouth of the Mississippi to this place. The left bank is here a high rocky bluff. It has been observed that the prolongation of this ridge forms the dividing high lands between the waters of Arkansaw, White, and St. Francis rivers, and those of the Missouri and of the Mississippi above the bluff.

Advancing above this distinctive ridge, a new region presents itself, in many respects superior to the one we have had under review. The surface of the country contiguous to the junction of the Missouri and Mississippi, is less liable to inundation than the expanse west of the Mississippi below the mouth of the Ohio.

The superficies contained within the districts of Cape Girardeau, St. Louis, St. Charles, and St. Genevieve, presents a fine country diversified by hill and dale, without the rugged aspect of the middle and northern, or the dull monotony of the lower parts of the Mississippi.

The bottoms and prairies are generally level, but are interspersed with rolling woodland.

The district of *Cape Girardeau* extends from Apple creek to Tapawaty bottom about thirty miles. The first establishment of this settlement was in 1794. In 1803 the population amounted to one thousand two hundred and six; by the census of 1810, the inhabitants amounted to three thousand eight hundred and eighty-eight.

This is one of the most flourishing settlements on the western waters of the United States. The lands are various and good. The staples are cotton, flour, tobacco, hemp, and maple sugar. Maize is raised for home consumption, but is frequently exported to Natchez and New Orleans. Beef, pork, lard, and tallow, are also produced for consumption and exportation.

The settlements in this district are so far from being confined to the banks of the Mississippi, that the greatest number are scattered west of Cape Girardeau, and even extend to the waters of St. Francis, sixty miles in the rear of the cape; where the lands are of the first quality.

ST. GENEVIEVE is bounded southeast by Apple creek, north by the Merrimack river, N. E. by the Mississippi: upon the latter it ex-

tends upwards of one hundred miles; its limits are indefinite to the west. This district contains two regularly built villages, St. Genevieve and Bourbon.

The land is various, and more hilly than that of Cape Girardeau; perhaps less fertile, but certainly richer in mineral wealth, particularly lead and salt. The settlements extend to St. Francis, whose lead streams rise in this district.

Between St. Genevieve and Merrimack, the banks of the Mississippi are in many places high and rocky. Some of these bluffs are elevated at least three hundred and sixty feet, and have at a distance the appearance of artificial towers. *They are solid masses of limestone disposed in horizontal strata.**

The agricultural productions of this district are similar to those of the district of Cape Girardeau. The timber consists of oak, pine, cypress, and red cedar.

The population of St. Genevieve, in 1804, amounted to two thousand eight hundred and seventy; in 1810 it amounted to four thousand eight hundred and twenty. The population is annually increasing with great rapidity.

Lead and salt are the principal staples; those articles are sent wherever a market offers. St. Louis' district has the Mississippi river east, Missouri N. W., and the Merrimack on the south. The district is well peopled, and has, besides the town of St. Louis, two fine villages, Carondelet and St. Ferdinand.

St. Louis, the capital of the Missouri territory, is situated on the west or right bank of the Mississippi river, upon an elevated plain, eighteen miles by water below the mouth of Missouri, and fourteen above that of the Merrimack, at $38^{\circ} 36'$ N. lat. $12^{\circ} 58'$ W. lon. from Washington city. This town was founded in 1764 by some French traders, as a depot for traffic with the savages. The sight is bold and elevated; and being founded on a rock, the encroachments of the Mississippi are prevented from producing injurious effects.

The town of St. Louis extends along the river about a mile. There is considerable resemblance between the natural position of St. Louis and Cincinnati: both are built upon a first and second bottom. A sloping hill rises behind the former, and gradually extends into a plain, upon which is an open prairie. St. Louis is surrounded with dilapidated fortifications, which were at no period in a complete condition. The town is now in a state of very rapid improvement. Its situation is not only advantageous, but interesting: occupying a point where so many vast rivers mingle their streams, an increasing, rapid, and lasting property is promised to this town. Including Louisiana, St. Louis is the most central town yet built in the American Union. It may be in the course of human events the seat of empire, and no position can be more favourably situated for the accumulation of all that comprises wealth and power.

The village of Carondelet is situated on the bank of the Mississippi five miles below St. Louis: it is an inconsiderable place, but on the increase.

* Stedder's sketches of Louisiana, page 217.

St. Ferdinand stands upon a rising ground near a fine brook of clear water, fourteen miles northwest of St. Louis. The lands adjacent, particularly the prairies, are extremely fertile.

The lands in the entire district of St. Louis are more fertile, and less broken, than are those of St. Genevieve. Between the Merri-mack and St. Louis the banks of the Mississippi are high and rocky: a short distance above St. Louis an alluvial bottom commences, which extends above the mouth of the Missouri. Upon both rivers the bottoms are extensive, level, and fertile soil, covered with large timber.

Prairies are extensive near both St. Louis and St. Ferdinand; that near the latter is twelve miles long and two wide. Extensive settlements are made upon its border. It lies nearly parallel to the Missouri, and from one to two miles from that stream. The settlements made on this prairie are similar to those formed in like places in other parts of Louisiana and Missouri. The plantations are extended into both the prairie and woodland, embracing a due proportion of each. The farms are many of them large and well cultivated, and their proprietors wealthy.

The settlements are every where extending: the fertility of the lands, and the health enjoyed by the inhabitants, contribute to give unusual property to the country near St. Louis.

The richness and variety of its mineral and vegetable productions; its lead, salt, flour, beef, pork, flax, and hemp, afford inexhaustible sources of wealth, and secures to this country a rank amongst the most eligible spots in the United States.

The population of this district, in 1804, amounted to about two thousand eight hundred persons; by the census of 1810, the inhabitants were five thousand six hundred and sixty-seven. The population is, no doubt, now (1817) nearly, or altogether double the latter number.

Attached to St. Louis, is the flourishing settlement of St. Andrew's, twenty-five miles southwest of that town. Like all other parts of the district, the lands of St. Andrew's exhibit a mixture of prairie and woodland; hill, dale, and soil, every where fertile. The farms are large and skilfully conducted.

The timber of the district of St. Louis, except pine and cypress, is similar to that of St. Genevieve: its exports have been mentioned.

ST. CHARLES' district occupies the peninsula between Mississippi and Missouri rivers; the settlements extending along both. This district may be termed an expanse of soil, unexcelled perhaps on earth. Exclusive of the two great rivers which bound the district on the N. E. and S. W. sides, it is intersected with a number of smaller streams, affording partial inland navigation and mill-seats. The country is rolling but not mountainous; the soil is deep and strong. Timber and good and wholesome water are abundant. The prairie lands along the Mississippi are the only exceptions where these advantages are not enjoyed by the inhabitants.

Extensive bottoms are found skirting all the large and many of the smaller streams. Those on the Missouri are clothed with wood, and but rarely inundated. Commencing at the mouth of the Missouri a prairie lies along the right shore of the Mississippi, which extends

sixty-five or seventy miles in length, from one to ten miles wide. The settlements are formed along the margin. The soil is extremely fertile, and yields an ample production to the farmers.

St. Charles' village stands upon the left shore of the Missouri, twenty-four miles above its mouth, and is remarkable as being the most western town yet built in that part of the United States. This town was founded in 1780, and lies along the bank of the river about a mile in one continuous sheet, containing at this time about two hundred houses, and one thousand or twelve hundred people.

Portage des Sioux is a village on the right bank of the Mississippi, six miles above the Missouri. This village is small but increasing; it contains about fifty houses, and between one hundred and fifty to two hundred inhabitants.

The timber and productions of St. Charles does not materially differ from those of St. Louis; but the superficies of arable soil in the former is certainly greater, on an equal area, than in the latter.

Like the adjacent districts, St. Charles produces lead and salt. Some of the richest mines of the latter, yet known in the country, is in this district. The salt springs are found principally upon the waters of the Missouri.

The population of this district was, in 1804, estimated at about one thousand five hundred persons; in 1810 they were found augmented to upwards of three thousand five hundred, and are still rapidly increasing.

The population of Missouri territory is recent. A few settlements existed upon the left shore of the Mississippi from the first discovery of the country by the French in 1683, but few or no establishments were made upon the right bank until the cession of Canada to England, and Louisiana to Spain. In 1784 the first effective settlements in the now Missouri territory was formed at St. Louis. Since that period the other posts were founded at different and distant times.

The usual and ruinous policy of Spain was followed here as in all her other American dominions. The posts were separated from each other, and unable to yield mutual protection, and prevented from a reciprocity of commercial intercourse. Many causes have been adduced for the apparent decadence of Spain. Some of these causes have, and do exist, and have produced no doubt the effects ascribed to them; but perhaps the cause that inflicted the deepest wound upon this great monarchy, was the dispersion of its physical force over too wide a surface.

Spain not only contributed little towards the peopling of Louisiana when in her hands, but she also, in abandoning the country, left impediments to emigration, that has retarded the increase of its inhabitants to this day. From the loose and careless manner of granting land titles, practised by Spain, the officers of the United States have not, in twelve years, been able to develop their intricacy. Though a great number of claims have been acknowledged legal by our commissioners, an immense number still remains undetermined; and until a final adjustment takes place upon the merits of the private claims, none of the public land in either the state of Louisiana or the territory of Missouri can be sold.

At the moment of the cession of Louisiana to the United States, the dispersed and defenceless state of the population was too apparent to escape the most inattentive observer. It was perceived by our statesmen, and the same comprehensive mind that conceived and executed the transfer of the country under our authority, being then at the head of the government, the only possible means to augment the population of Louisiana was attempted. Commissioners were sent to receive a register of the claims of individuals, and to decide upon their merits. Little delay or difficulty was apprehended; but the result proved very much the contrary. The commissioners were unacquainted with the nature of the titles, and the inhabitants were suspicious of some fiscal manoeuvres being concealed under the whole transaction. An adherence to technical but inapplicable rules, retarded the proceedings of the commissioners, and a refractory distrust prevented the people from producing their papers with facility. Between the parties, the liberal and enlightened policy of the general government has hitherto been unproductive of the benefits that would have resulted from a speedy adjustment of the land claims in Louisiana. If one gigantic mind had not arisen to repair the mischief, the nation would have experienced the destructive consequences of this delay.

As things still remain, no land can be procured in Louisiana or Missouri, except by purchase from individuals. The smaller claims are generally expensive, and most of the larger have doubtful titles. Emigration is as a matter of course, turned towards places where land can be purchased from the United States.

The only two large titles in the state of Louisiana having any considerable bodies of land open to purchase have been noticed. In Missouri territory there are a number of large claims covering extensive tracts of the best lands in the country. The lead mines both above and below the junction of the Mississippi and Missouri rivers, are involved in some of those claims. How many years will yet transpire before the adjustment of these claims, the sale of the public land, and the country be laid open to emigration, it is difficult to conjecture. If nothing but the mere settlement of the lands were involved in this question, the inquiry would be of little moment; as the removal of the citizens from one place to another can add nothing to their numbers, and comparatively but little to the national wealth; but the exposed situation of the state of Louisiana particularly, and its vital importance to the United States, renders all considerations of policy in which the subject is involved, of primary importance.

Taken as a whole, Louisiana was perhaps the greatest, bloodless, conquest ever made by man. Its acquisition at once enlarged and strengthened the United States. Its citizens, by the fulfilment of the severest duty mankind can perform, have shown themselves worthy of all the protection that the nation can give. In the hour of alarm, the Louisianians were at the post of duty, and, in the day of battle, stood firm at the post of honour. Their gallantry aided in giving the United States a name, that time may render venerable, but cannot destroy.

It has already been repeatedly observed in this treatise, that the

climate of those parts of North America lying upon the western slope of the valley of the Mississippi, is colder than the corresponding latitudes east of the Alleghany. This statement is very different from the commonly received opinion on the subject; which almost uniformly supposes the contrary. If the seasons were more mild in the valley of the Mississippi than in similar latitudes on the Atlantic coast, the fact would be an anomaly in nature. The Alleghany mountains lie in a N. E. and S. W. position, and shield a considerable part of the coast of the Atlantic ocean from the refrigerating winds of the north. On the contrary, the valley of the Mississippi exposes an open and comparatively an unbroken plain, whose surface is higher than the alluvial shore that extends from New-York to Cape Sable.

Mr. Jefferson, in his invaluable Notes on Virginia, first gave sanction to the opinion that more heat was enjoyed by the inhabitants on the Ohio than on the Rappahannock in the same parallels of latitude. Mr. Volney pretended to determine by vegetable analogy the exact difference; and though this method is certainly the best for which data can be found in nature, yet the mere existence of a tree in one place, and its being wanting in another, gives no conclusive evidence of any real difference in the respective climates. The facts mentioned in this treatise, respecting the *Liriodendron tulipifera* (poplar) and the *Robinia pseud-acacia* are in point.* To make a vegetable a true thermometer, its life, modes of growth, inflorescence, the soil to which it is congenial, and its habitudes, must be known and compared by means of specimens raised at two places, whose temperatures are different. The presence or absence of any vegetable in a given place prove nothing, but that presence or absence.

Dr. Drake was the first writer on the valley of the Ohio, or Mississippi, who possessed, at the same time, talents and practical experience on the subject. Climate is like the human character in one thing; neither can be known by any other means than long and intimate acquaintance. The common tourist is but seldom well endowed with the patience and skill to collect, and still more rarely with the power of mind to compare facts of any kind; much more where the common prejudices of the world are to be encountered. Dr. Drake, with the modesty that frequently accompanies talent, adduces facts which prove that at Cincinnati,† the climate is as severe, if not more so, than at Philadelphia, though the former is upwards of a degree of latitude more southward than the latter. Mr. Stodderd, in his *Historical and Descriptive sketches of Louisiana*‡ endeavours to support the common notion, that more heat is felt on the banks of the Mississippi than on the Atlantic coast in the same latitude, but acknowledges that the former place is also colder in winter. The extreme summer heat is not so certain a criterion of climate, as the extreme of winter cold. Heats are casual and excessive; in very high northern latitudes cold is much less variable. Deductions of temperature drawn from the rising and falling of the spirits in a common thermometer, are far from being conclusive data respecting

* See page 67.

† Picture of Cincinnati, page 113 and sequel.

‡ Page 285.

climate. The thermometer may mark with great precision the absolute heat at the place where the instrument is suspended, but can afford but little information respecting the temperature of the adjacent country. The freezing of rivers affords more correct facts concerning the relative degrees of cold, of any two or more places than does the thermometer. Mr Stodderd states, that for three successive winters, commencing in 1802, the Mississippi was passable on ice at St. Louis, and that the severe frost set before the 20th December of every year. The same author states also, that in January, 1805, the ice was at St. Louis twenty-two inches in thickness; and farther, that the severity of the weather at St. Louis is about the same as in the north part of New Jersey. It is a singular circumstance that Mr. Stodderd joins these facts to his own opinion, that the heat of the climate is greater in the Mississippi valley than on the Atlantic coast.

The author of this treatise was at Natchez during the winters of 1799, 1800, 1801, 1802, 1803, 1804, and 1805; in each one of these years much cold weather was experienced, particularly in 1800 and 1803. In the former year a most destructive sleet fell in January; in the latter, there was but little snow, but the winter season was attended with long and severe frost. In 1804 the blossoms of the cotton plant were destroyed by frost on the night of the 20th September. In 1805 the cold weather set in about New-year, and was attended with snow and long intense frost.

The winter of 1806 afforded an example of a departure from the ordinary routine of the seasons in Louisiana. At New-year the flowers of the peach tree, the cotton, tobacco, and those of many other very tender plants, were in full bloom. The season was warm and even sultry, until the 10th of February, when a storm set in that continued three or four days, and destroyed all vegetables perishable by frost. Indeed, during seventeen winters that occurred during the residence of the author in Louisiana and the Mississippi territory, not one passed away without hard frost at Opelousas and even at New Orleans.

The general aspect of the country near Natchez has, from December to March, all the features of winter that are seen at Pittsburg, except continued snows. The trees are denuded of their leaves; the grass and other tender vegetables are killed. The inhabitants find fires almost as necessary at the former as at the latter place.

The heats of summer differ but very little from Lexington in Kentucky to the border of the gulf of Mexico. It has been supposed, by many persons, that the heats were even more oppressive at St. Louis and Lexington than at Natchez, Opelousas, or New Orleans. The opinion rests upon very uncertain data, to say the least. Excessive heat is oppressive, and persons labouring under its force are liable to exaggerate its effects. The observation on the climate of all the country we have been reviewing, may be concluded by remarking, that on its surface the ordinary course of nature is not inverted. The same causes produce the same effects here as in other places. The greatest and most durable cold is found in parts highest and

most exposed to the north ; the longest, and most intense heat, in low places, sheltered from the north and open to the south winds.

An assertion is ventured, that no vegetable that cannot be cultivated in any given place in the open air on the Atlantic coast, can be reared west of the Alleghany mountains, without a removal to a more southern latitude, and the removal considerably greater in the latter than in the former place.

It would answer but few useful purposes to enter into any lengthened detail respecting the health or diseases of the country upon and contiguous to the Mississippi. The general advice given in this treatise, respecting the most suitable season to remove into the state of Louisiana, applies with equal propriety to all the region reviewed. The last chapter of this treatise will contain the result of the personal observations of the author, during his residence in the country ; to this chapter the reader is referred.

The following list of roads will exhibit the relative distance from Natchez and St. Louis, the two principal towns of the state of Mississippi and territory of Missouri, to the circumjacent places. Some new roads are no doubt omitted, but the chief routes are marked, and some roads inserted that have never before been published.

It will be recollected, that a difference in climate was pointed out between the countries north and south of the dividing ridge that strikes the Mississippi in the district of Cape Girardeau. A much greater difference might be pointed out respecting travelling. Wherever much overflowed lands occur, impediments are great and embarrassing to the traveller. This is peculiarly the case for some distance west of the Mississippi, from the bluff of Cape Girardeau to the mouth of that river. Above Cape Girardeau the country is more high and dry, and easily passed.

The route No. 34, from St. Louis to Natchitoches has been frequently travelled. It is yet, however, only a trace, passing over a hilly, broken, and in many places mountainous country. This trace, or within a short distance of it, must in a few years become a great thoroughfare. When the banks of Red, Arkansas, White, Osage, Kansas, Plate, and Missouri, become settled, this must be the return route from New Orleans to very extensive settlements. The relative position can be seen by inspection on any good map. In the progress of population, the route from New Orleans by Opelousas to Natchitoches, and from thence north and west, must become one of the most public passes in the world. It will be by land what the Mississippi will be by water.

East of the Mississippi, travelling from New Orleans will be dispersed over a number of different land routes, at least three ; by Natchez, direct to Nashville, and by the valley of Mobile : on the west side of the Mississippi, by far the greatest number of persons will be confined to one route, at least as far as Opelousas, and even to Natchitoches.

On this latter route, after the low lands of Atchafalaya are passed, nature opposes few obstacles to the formation of a good road in any

	<i>Miles.</i>
Big creek	12 88
Falish creek	16 104
Lust creek, a branch of Big-black	25 129
Pearl river	50 179
White Oak creek	11 190
Head of Big-black	10 200
M'Intoshville	34 234
Long creek	19 253
Black Briar creek	12 265
Cohatta	12 277
Notarchucky	7 284
Bear creek	16 300
Tennessee river	11 311
Tennessee line	24 335
Buffalo river	18 353
Duck river	27 380
Franklin	34 414
NASHVILLE	18 432

No. 27.

From Natchez to St. Louis by water.

	<i>Miles.</i>
Mouth of Schillings' Bayou	5
Mouth of Fairchild's creek, and lower end of Fairchild's islands	9 14
Efflux of Bayou L'Argent	2 16
Upper end of Fairchild's islands	3 19
Mouth of Cole's creek	7 26
Petite Gulf	13 39
Evans' mouth of Bayou Pierre	9 48
Mouth of Big-black river	11 59
Lower extremity of Palmyra bend	13 72
Upper extremity of Palmyra bend	20 92
Warren, in Warren county	8 100
Walnut hills	16 116
Yazoo mouth	14 130
Entrance into lake Providence, and lower trace from the settlements on Ouachitta	41 171
Upper trace from Ouachitta	37 208
Stack island	3 211
North boundary of the state of Louisiana 33° N. lat.	5 216
Mouth of Arkansaw	102 318
White river	14 332
Three islands	36 368
Horse-shoe bend	12 380
St. Francis' river	30 410
Council Island	28 438
Fort Bickering, Chickisaw bluff	32 470
Bluff	29 499
Bluff	22 521

	<i>Miles.</i>
Bluff	12 533
New Madrid	70 603
South boundary of Tennessee, and north boundary of the state of Mississippi	12 615
Iron banks	30 645
Mouth of Ohio	23 668
Head of Tiwapaty bottom	27 697
Great bluff of rocks	1 696
Cape Girardeau	11 707
Apple creek	18 725
Kaskaskia river	40 765
St. Genevieve	24 789
Fort Chartres	12 801
Herculaneum	12 813
Harrison	6 819
Mouth of Merrimack	8 827
St. Louis	19 846

No. 28.

Natchez to Pittsburg, by water.

	<i>Miles.</i>
Mouth of Ohio. (See the preceding table.)	668
Chain of rocks	15 683
Wilkinsonville	6 689
Fort Masac	20 709
Tennessee river	8 717
Smithland	10 727
Cumberland river	3 730
Hurricane island	35 765
Cave in the rock	3 768
Saline river	11 779
Wabash river	25 804
Diamond island	27 831
Henderson	18 849
Green river	21 870
Hanging rock	30 900
Anderson's ferry	32 932
Clover creek	30 962
Sinking creek	10 972
Little Blue river	20 992
Blue river	12 1004
Salt river	32 1036
LOUISVILLE, falls of Ohio	25 1061
Westport	20 1081
Port William, mouth of Kentucky river	36 1117
Big-bone Lick creek	30 1147
Lawrenceburgh	20 1167
Great Miami	2 1169
North bend	6 1175
CINCINNATI and Newport	16 1191

	<i>Miles.</i>
Columbia, mouth of Little Miami	41195
Augusta	321227
Charleston	11228
Limestone	51233
Liberty	11234
Manchester	111245
Adamsville	81243
Graham's station	51258
Salt Lick	171275
Portsmouth, Big Sciota river	81283
Little Sciota	101293
Little Sandy river	
Great Sandy, eastern extremity of Kentucky on Ohio	201313
Big Guyandot river	111324
Little Guyandot	171341
Gallipolis	161357
Point Pleasant, mouth of Great Kenhawa river	41361
Letart's falls	301391
Big Sandy creek	161407
Buffentin's island	41411
Shade river	61417
Bellville	71424
Great Hockhocking	41428
Little Hockhocking	61434
Blannerhassett's island	31437
Little Kenhawa	61443
Vienna	51448
MARIETTA, mouth of Muskingum river	71455
Little Muskingum	41459
Lower end of Long Reach	201479
Upper end of Long Reach	131492
WHEELING	421534
Warren	71541
Charleston	61547
STEUBENVILLE	71554
Fawcett's town	251579
George town	21581
Beaver town, one mile below mouth of Beaver river	101591
Logs town	101601
PITTSBURG	121613

No. 29.

From St. Louis to New Orleans by water. This route is in part the reverse of the preceding, and No. 27.

	<i>Miles.</i>
Mouth of Merrimack	19
Harrison	827
Herculaneum	633
Fort Chartres	1245

Miles.

St. Genevieve	12	57
Kaskaskia river	24	81
Apple creek	40	121
Cape Girardeau	18	139
Great rocky bluff	11	150
Head of Tawapaty bottom	1	151
Mouth of Ohio	27	198
Iron banks	23	301
North boundary of the state of Tennessee	30	231
New Madrid	12	243
First bluff	70	313
Second bluff	12	325
Third bluff	22	347
Fort Pickering	29	376
Council island	32	408
St. Francis' river	28	436
Horse-shoe bend	30	466
Three islands	12	478
White river	36	514
Mouth of Arkansas	14	528
North boundary of the state of Louisiana, 33° N. lat.	102	630
Stack island	5	635
Upper trace from Ouachitta	2	637
Entrance into lake Providence	37	674
Yazoo mouth	41	715
Walnut hills	14	629
Warren, in Warren county	16	745
Upper extremity of Palmyra bend	8	753
Lower extremity of Palmyra bend	20	773
Mouth of Big-black river	13	786
Grand gulf	1	787
Evans', mouth of Bayou Pierre	11	798
Petite gulf	9	807
Mouth of Cole's creek	13	820
Fairchild's island	7	827
Efflux of Bayou L'Argent	3	830
Mouth of Fairchild's creek	2	832
Mouth of Schillings' Bayou	9	841
Natchez	5	846
New Orleans. (See Nos. 7 and 22.)	322	1189

No. 30.

St. Louis to Washington city, by Lexington in Kentucky.

Miles.

Cahokia	3	3
Prairie de Rocher	47	50
Kaskaskia	15	65
Beaucoup	45	110
Vasseux river	11	121
East Fork river	10	131

	<i>Miles.</i>
U. S. Saline	47 178
Shawanee town	12 190
Morganfield, Kentucky	15 205
Henderson	21 226
Yellow bank	25 251
Hardensburg	47 298
Elizabeth town	37 335
Bealsburg	16 351
Bairds' town	16 387
Petersburg on Kentucky river	42 409
Versailles	8 517
Frankfort, Lexington	13 430
Paris	22 452
Blue Licks	21 472
Washington	20 493
Limestone, or Maysville	4 497
West Union	17 514
Chillicothe	57 571
Tarlton	18 589
New Lancaster	16 605
Zanesville	33 638
Cambridge	25 663
Washington	10 673
Morristown	24 697
St. Clairsville	10 707
Wheeling, Virginia	11 718
Alexandria, Pennsylvania	16 734
Washington	16 750
Brownsville	25 775
Union	12 787
Foot of Laurel bill	4 791
Cumberland, Maryland	62 853
Old town	14 867
Hancock	34 901
Hagers' town	30 931
Frederick	31 962
Montgomery court-house	28 990
George town	12 1002
WASHINGTON	3 1005

No. 31.

St. Louis to Washington, by Shawanee town and Knoxville.

	<i>Miles.</i>
Shawanee town. (See No. 30.)	190
Harphead, Kentucky	36 226
Greeneville	36 262
Russelville	34 296
Craigfort, Tennessee	12 308
Dickson's spring	16 324
Fort Blount	20 344

Miles.

Mount Granger	16	360
Kingston	67	427
KNOXVILLE	43	470
Rutledge	32	503
Oresville	12	515
Rogersville	22	537
Rossville	25	562
Blountsville	18	580
Abingdon, Virginia	24	604
King's	10	614
Bowen's	16	630
Head of Tennessee river	13	543
Evansham	32	675
Inglisville, on Kenhaway river	31	706
Down, Kenhaway	11	717
Christiansburg	14	731
Big Lick	26	757
Fincastle	14	771
Pattonsburg, on James' river	14	785
Natural bridge	12	797
Lexington	14	811
Brownsburg	13	824
Middlebrook	11	835
Staunton	11	846
Waynesboro	12	858
New-York	7	865
Charlottsville	20	885
Orange court-house	34	919
Gum spring	20	939
Wilder's	12	951
Fredericksburg	20 $\frac{1}{2}$	971 $\frac{1}{2}$
Falmouth	1 $\frac{1}{2}$	973
Stafford	9	982
Acquia	4 $\frac{1}{2}$	986 $\frac{1}{2}$
Dumfrie's	9 $\frac{1}{2}$	966
Ocoquan	9 $\frac{1}{2}$	1005 $\frac{1}{2}$
Pohike church	5	1010 $\frac{1}{2}$
Alexandria	11 $\frac{1}{2}$	1022
Washington	7	1029

No. 32.

St. Louis to Pittsburg, by Vincennes and Cincinnati.

Miles.

Cahokia	3
Kaskaskia river	30
Little water	120
Fox river	25
Vincennes, on Wabash river, state of Indiana	36
White river	24

	<i>Miles.</i>
Blue river	60 298
CORYDON	18 316
Louisville, Kentucky	25 341
Middletown	12 353
Shelbyville	25 378
Newcastle	24 402
Port William	20 422
Newport	46 468
Cincinnati	1 469
Columbia	8 477
Newtown	17 494
Williamsburg	7 501
New-market	19 520
Bainbridge	25 545
Chelicothe	18 563
Tariton	18 581
New Lancaster	16 597
Zanesville	33 631
Cambridge	25 656
Washington	10 666
Morristown	52 691
St. Clairsville	10 692
Wheeling, Virginia	11 701
Alexandria, Pennsylvania	16 717
Washington	16 733
Cannonsburg	7 740
Pittsburg	18 758

No. 33.

From St. Louis to New Orleans, by Russellville, Nashville, and Natchez.

	<i>Miles.</i>
Russellville. (See No. 31.)	296
North boundary of Tennessee	15 311
Springfield	15 326
Mansker's	12 338
NASHVILLE	22 360
Franklin	18 378
Duck river	34 412
Buffalo river	27 439
Tennessee, south line	18 457
Tennessee river	24 481
Bear creek	11 491
Notarchucky	16 508
Cohatta	7 515
Black Briar creek	12 527
Long creek	12 539
M'Intoshville	19 558
Head of Big-black river	34 592
White oak creek	10 602

EMIGRANT'S GUIDE.

161

	<i>Miles.</i>
Pearl river	11 613
Lust creek, branch of Big-black	50 663
Faliah creek	25 688
Big creek	16 704
Acorn creek	12 716
White sand creek	16 732
Grindstone ford, Bayou Pierre	12 744
Gibson's port, Bayou Pierre	6 750
Huntston	16 766
Union	7 773
Seltzeratown	7 780
Washington	6 686
NATCHEZ	6 793
New Orleans by Madisonville. (See No. 8.)	
St. Catherine creek	4 796
Second creek	10 806
Homochitto river	6 812
The 31° N. lat.	35 847
Amite river	4 851
Spiller's	14 865
Bridge over Tickfoha river, C. H. of St. Helena	15 880
Springfield on Notalbany river	10 890
Pontchatoola creek	5 895
Tangipao river	9 904
Madisonville	15 919
Mouth of Chifuncté	3 922
Over lake Pontchartrain to Fort St. John	20 942
St. John's suburb, (Fauburg)	4 946
NEW ORLEANS	2 948

No. 34.

St. Louis to New Orleans by the Hot Springs on Ouachitta, Nat-chitoches on Red river, and Opelousas.

	<i>Miles.</i>
Merrimack river	60 60
Dividing ridge between the Merrimack and St. Francis' rivers	30 90
Head of St. Francis river	35 125
Big-black, branch of White river	30 155
Little-black	12 167
Current river	10 177
Thomas' Fork	25 202
Spring river	30 232
Strawberry river	35 267
White river	60 327
Little Red river, branch of White river	60 387
Arkansaw river	35 422
Hot Springs	50 472
Ouachitta river	9 481
Fourche au Cado	24 505

direction, where it can become necessary. From New Orleans to Natchitoches the distance is 356 miles*, only 21 miles of which is over the lakes of Attacapas.

If the current of human events continues to flow in its present course, Natchitoches will, within one half century, become an immense interior *entrepot*. The situation of this town is admirably adapted to form the connecting link between New Orleans and the interminable regions to the N. W. of that city.

Though Natchez is not the seat of government, it is however the principal town in the state of Mississippi. The following list of roads will show the distance from that city to the various places of note in its vicinity, and in the neighbouring states and territories.

No. 20.

Road from Natchez to New Orleans, by Madisonville.

	Miles.
St. Catherine creek	4
Second creek	10
Homochitto river	6
The 31° N. lat.	35
Cross Amite river	4
Spiller's	14
Court-house St. Helena, bridge over the Tickfoha river	15
Springfield on Notalbany creek	10
Pontchatoola creek	5
Tangipao river	9
Madisonville	15
Mouth of Chifuncté	3
Over lake Pontchartrain, to Fort St. John, mouth of Bayou St. John	20
St. John's suburb (Fauxburg,)	4
New Orleans	2

This road is the inverse of No. 8. page 40.

No. 21.

From Natchez to New Orleans by Baton Rouge and the Levée.

	Miles.
St. Catherine creek	3
White Apple village	9
Homochitto river	6
Ferry over Buffalo	11
Woodville	8
Sligo	9
Bayou Sara creek	7
St. Francisville in New Feliciana (state of Louisiana,)	15
Buller's plains	11
Baton Rouge	16
Efflux of Iberville	16

* See Road No. 9, page 44.

	<i>Miles.</i>
Over Manchac point	4 115
St. Gabriel church	5 120
Madame Bruo's	15 135
Opposite Donaldsonville, efflux of Lafourche	7 142
General Hampton's	5 147
Bringier's	3 150
Church of St. John Baptiste	9 159
Fortin	8 167
Bonnet Quarré bend	18 185
Church of the German coast	15 200
Detrehan's	1 201
Lebranch's	2 203
Kenner's	2 205
Sauvé's	3 208
M-Carty's bend	8 216
New Orleans	9 224

No. 22.

Natchez to New Orleans by water.

This table is the reverse of part of No. 7.

	<i>Miles.</i>
White cliffs	11 11
Mouth of Homochitto river	40 51
Mouth of Buffalo river	9 60
Fort Adams	2 80
Mouth of Red river	18 80
Atchafalaya	3 83
Islands of Three Sisters	9 92
Bayou Tonica	28 120
Point Coujée church	31 151
Mouth of Bayou Sara, St. Francisville	1 152
Mouth of Thompson's creek	6 158
Paton's and Lilly's islands	8 166
General Wickoff's	10 176
Baton Rouge	8 184
Efflux of Iberville or Bayou Manchac	13 107
Efflux of Plaquemine	4 205
Church of St. Gabriel	10 215
Donaldsonville, efflux of Lafourche	26 241
General Hampton's	6 247
Bringier's	4 249
Cantrel's two churches, parish of St. James	8 257
Fortin's	12 269
Bonnet Quarré church, parish of St. Charles	14 283
Bonnet Quarré point	5 288
Red church, German coast	14 302
Detrehan's	1 303
Kenner's	5 308
Sauvé's	3 311

	<i>Miles.</i>
McCarly's	5 316
New Orleans	6 322

The route by water from Natchez to the Hot Springs on Ouachitta, will be found in numbers 7 and 22.

The route from Natchez to Natchitoches, will be found in numbers 7, 12, and 22.

The route from Natchez by water, to Opelousas and Attacapas, can be taken from numbers 14, 15, 16, and 22.

It would swell the list of tables to too large a bulk, to give all the roads and river routes direct: there is, we trust, no road or route by water of any consequence, in either the state of Louisiana, Mississippi, or territory of Alabama, not embraced in the lists included in this treatise.

No. 23.

From Natchez to Opelousas and Attacapas by Alexandria, or Red river.

	<i>Miles.</i>
Concordia, west bank of Mississippi	1 1
Bayou Crocodile	15 16
Black river	22 38
Bushly creek	11 49
Prairie of Ocatahoola	3 52
S. W. extremity of Ocatahoola	6 58
Hemphill's creek	2 60
Little, or Ocatahoola river	22 82
Alexandria	21 103
Bayou Bœuf	15 118
Mulhollan's	2 120
Bayou Crocodile	12 132
Pine Prairie, Opelousas	10 142
McDaniel's, head of Prairie Mamou	8 150
Hanchett's	3 153
Fontenot's	7 160
Opelousas church	12 172
Prairie Laurent	4 176
Lower end of ditto, bridge over Bayou Fusilier	9 185
St. Martinsville	20 205
New Iberia	9 214
Sorrel's	19 233
Court-house, parish of St. Mary	17 250
Rentrop's ferry	21 271
Mouth of Teche	1 272

No. 24.

From Natchez to Opelousas by the Prairie of Avoyelles.

	<i>Miles.</i>
Ferry over Buffalo. (See No. 21.)	29
Fort Adams, Loftus' heights	16 45
31° N. lat.	6 51

Miles.

Ferry over Mississippi, between the entrance of Red and At-					
chafalaya rivers	-	-	-	12	63
Avoyelles Prairie	-	-	-	20	83
Over, ditto	-	-	-	6	89
Bayou le Mourir	-	-	-	3	92
Bayou Bœuf	-	-	-	12	114
Bayou Crocodile	-	-	-	5	119
Pine Prairie	-	-	-	4	123
Mouth of Teche. (See preceding table.)	-	-	-	130	253

It will be perceived, on comparing these two foregoing tables, that the distance from Natchez to the lower part of Attacapas, is near thirty miles less by the mouth of Red river than by the town of Alexandria; but the upper or Alexandria road can be passed, when the lower or Avoyelles route cannot. Both passes over wide extent of overflowed lands, though the former, in proportion to distance, has more hilly and consequently better ground for road than the latter.

No. 25.

Road from Natchez to Milledgeville in Georgia, by Monticello, state of Miasissippi, and Fort St. Stephens, Alabama territory.

Miles.

Washington	-	-	-	-	6
Hoggat's	-	-	-	-	6
Head of Homochitto river	-	-	-	-	28
Bogue Chito	-	-	-	-	18
MONTICELLO	-	-	-	-	32
Winchester on the Chickisawhay river	-	-	-	-	105
Eastern branch of Pascagoula	-	-	-	-	11
Sintabogue river	-	-	-	-	21
FORT ST. STEPHEN'S	-	-	-	-	12
Fort Claiborne	-	-	-	-	25
Hurricane Spring	-	-	-	-	43
Fort Decatur	-	-	-	-	56
Point Comfort	-	-	-	-	12
Chatahoocy river	-	-	-	-	30
Fort Lawrence	-	-	-	-	45
Fort Hawkin's	-	-	-	-	50
Milledgeville	-	-	-	-	45

No. 26.

To Nashville in Tennessee.

Miles.

Washington	-	-	-	-	6
Saltzerstown	-	-	-	-	6
Union	-	-	-	-	7
Huntston	-	-	-	-	7
Gibson's port	-	-	-	-	10
Grindstone ford	-	-	-	-	6
White sand creek, branch of Big-black	-	-	-	-	12
Acorn creek	-	-	-	-	16

	Miles.
Terre Noir creek	20 525
Little Missouri, branch of Ouachitta	16 541
White oak creek	12 553
Tulins Vaucherie in the state of Louisiana	132 685
Campé	26 711
Grand Ecor	7 718
NATCHITOCHEs	4 722
Bayou Conchatta. (See No. 9.)	16 738
Terre Blanche	15 753
Bayou Eyprière Mort	12 765
Bayou Crocodile	32 797
Pine Prairie	9 806
M'Daniel's	8 814
Hanchet's	3 819
Fontenot's	7 824
OPELOUSAS	12 836
Bridge over Bayou Fusilier	13 849
St. Martinsville, Attacapas	20 869
New Iberia	9 878
Sorrel's	19 897
C. H. Parish of St. Mary's	17 914
Renthrop's ferry	21 935
Mouth of Teche river	1 936
Atchafalaya	2 938
Grassy lake	4 942
West end of Lake Palourde	3 945
East end of Lake Palourde	11 956
Lake Verret	11 967
Over lake Verret	3 970
Lafourche river	7 977
Donnaldsonville, on the Mississippi	20 997
General Hampton's, Old Houmas	6 1003
Bringier's	4 1007
Cantrel's two churches, parish of St. John Baptiste	8 1015
Fortin's	12 1027
Bonnet Quarre church, parish of St. Charles	14 1041
Bonnet Quarre point	5 1046
Red church, German coast	14 1060
Detrehan's	1 1061
Kenner's	5 1066
Sauvé's	3 1069
M'Carty's	5 1074
New Orleans	6 1080

No. 35.

Route from St. Louis to the Pacific ocean, by the Missouri and Columbia rivers.

	Miles.
St. Charles	21
Charrett's village	47 69

	<i>Miles.</i>
Gasconade	32 100
Osage river	33 133
Leadmine	20 153
Manitou creek	8 161
Saline river	11 172
Manitou river	9 181
Goodwoman's river	8 189
Mine river	7 196
Two Charlton rivers	24 220
Old Fort, Orleans	235
Grand river	4 239
Coal bank	85 324
Blue water river	9 332
KANZAS river	8 341
Little Plate river	9 350
Nodawa river	100 450
Wolf river	14 464
Big Nemaha	15 479
Neeshnabatona river	25 504
Little Nemaha river	8 512
PLATTE river	82 594
Bluff on the northeast side	25 619
Near the Maha village, (three miles.)	209 828
Big Sioux river	17 845
Copperas bluffs	26 871
James' river	70 941
Calumet bluff	10 951
Ancient Fortification	15 966
Quicourre	22 988
Poncar river and village	10 997
White river	120 1118
Three rivers of the Sioux pass	22 1140
Commencement of Great Bend	20 1160
Upper part of Great Bend	30 1190
Teton river	60 1250
Chayenne river	45 1895
Sarwarcarna river	87 1382
Wetarhoo river	25 1407
First Ricara village	4 1411
Cannon-ball River	72 1483
FORT MANDAN. Here the exploring party of Captains	
Lewis and Clark wintered in 1803-4	100 1583
Knife river	6 1589
Miry river	25 1614
Little Missouri	57 1671
Where the waters of Saskashawin approaches nearest the	
Missouri river	53 1724
YELLOW STONE river. It is not determined which is the	
principal stream, the Yellow Stone, or what is now called	
Missouri	120 1844

	<i>Miles.</i>
Martha's river	60 1904
Porcupine river	50 1964
Little Dry river	54 2018
Milk river	45 2063
Big river	25 2088
Bratton's river	98 2186
Muscleshell river	57 2243
Judith river	169 2412
Slaughter river	14 2427
Natural walls of Stone	26 2452
Maria's river	41 2493
Snow river	18 2511
Shield's river	28 2539
Portage river	7 2546
Great Falls	5 2541
Head of Falls	13 2554
Enter Chippewan mountains	30 2584
Heads of Missouri and Columbia	
Mouth of Columbia	964 3548

St. Louis is at $38^{\circ} 36'$ N. lat. $12^{\circ} 58'$ W. lon. Mouth of Columbia $45^{\circ} 15'$ N. lat. $47^{\circ} 57'$ W. lon. These two places bear from each other at an angle from the meridian $73^{\circ} 28'$; consequently are $73^{\circ} 28'$ N. W., and $73^{\circ} 28'$ S. E. respectively distant; 1713 geographical and 1861 English miles.

The several distances, as given by Messrs Lewis and Clark, are no doubt over calculated; their aggregate distance exceeds the direct line almost two to one, an excess hardly credible. In most instances where the lengths of rivers have been estimated by persons ascending their currents, the space passed through has been overrated, and the error has in most instances borne some proportion to the violence of the stream.

CHAPTER IV.

OUR intention was to have confined this chapter to the culture of the olive tree, but have extended the review to embrace the various objects of cultivation that have been introduced, or that probably can be profitably cultivated in the regions contiguous to the estuaries of the Mississippi and Mobile rivers.

A sketch has been made of the wine countries of Europe, whose soil and climate have the greatest resemblance to those parts of the United States where the vine is intended to be introduced. The reader, on comparing the respective places, can form his own conclusions, how far an anticipation of success can be drawn from the climate, or the location of the place chosen for the essay.

"That the olive has never yet been brought into general use in southern Louisiana, excites astonishment. This noble tree from time immemorial has been the emblem of peace and plenty. The olive is, perhaps, the first fruit tree that the human species, in times the most remote, made an object of their care. The olive is, of all fruits, that one whose uses are most numerous and salutary. This tree, over an immense range of the eastern continent, has been from the earliest times considered, like the cereal gramina, indispensably necessary to human society. Yet this benefaction of heaven has been in great part denied to America, from the carelessness of some, and the national avidity of others, amongst the different people who have planted colonies on this continent."*

Olive.†—It is useless to give an eulogium on this precious tree: "of all trees this is the first," says Columella. No oil can be compared to that drawn from its fruit; the fragments of the seed fatten poultry: its branches nourish cattle; and its wood is an excellent fuel. This tree is rapidly multiplied by the sprouts that arise from its roots; but it cannot bear severe frost.

It is believed to have originated from Egypt, from whence it was transported into Greece; and the colony of the Phœceans, who built Marseilles, enriched that country with a fruit, to which it was before a stranger. A colony was afterwards sent from Marseilles, who built the town of Agde: there is every reason to believe that this

* The great analogy between the climate of the Plateau of New Spain, with that of Italy, Greece, and southern France, should invite the Mexicans to the culture of the olive. This culture has been attempted with success, from the commencement of the conquest; but the government, by an unjust political system, far from encouraging, have sought to prevent it indirectly. There are not, that I know, any formal prohibition, but the colonists have not risked a serious attention to a branch of national industry, that would have instantly excited the jealousy of the mother country. Darby's Louisiana, p. 23 & 219.—Humboldt Essai Pol. S. N. E. Vol. III. p. 149.

† This article is literally translated from an excellent French work, "Cours d'Agriculture. See p. 24 of this treatise.

latter colony introduced the olive into Languedoc. Let that be as it may, there is ample proof that the tree is foreign to the south of France, from its suffering from severe cold: the winter of 1709 destroyed nearly all the olive trees in the kingdom.

The flower is white, small, and of a single piece; the tube cylindrical, the same length as the calycle; the corolla is smooth, divided into four, almost oval and something concave; the stamina two, opposite, supported on the corolla, garnished with yellow anthera, one pistil rising from the bottom of the calycle; the stamina divided into two at its summit; the calycle single leaved, divided into four.

The fruit furrowed, a drupe single seeded, first lisse, then green, afterwards brown, violet, and lastly, black, following the degree of maturity: the shell is hard, containing a soft fruit.

The leaves are simple, entire, and lanceolate; hard, thick, pale green above, and whitish below, supplied with a salient nerve passing entirely through the leaf.

The roots are branching and horizontal, very long. The bark yellow brown with knobs of a lighter colour than other parts of the root. The roots often branch from the tree above the surface of the ground; it is thought that this peculiarity arises from the earth being carried away by accident, as it is only seen on hilly places.

The tree is of a moderate size, generally straight and erect. The bark is smooth when young, furrowed and scaly when old. The flower bud shows itself early, often in April, always in May, and blooms in the end of May or June, according to the particular climate. The species commonly cultivated differ amongst themselves in their particular flowering seasons. The flower rises from the bottom of the leaf, disposed in bunches upon a common peduncle or footstalk.

There is a certain means to succeed in a good classification of the orchard varieties of the olive. It is necessary, however, that the individual is sufficiently rich to be able to bear the expense, and young enough to have time to follow the details of the experiment. Specimens ought to be collected from all the various places where the olive is cultivated. They ought then to be planted, and their progress, flowering, and fruit, examined carefully. An exact comparison of species would be the first advantage that would result from this mode; but a second and much more important would be the knowledge acquired of the most productive species, and that one which would best resist the rigours of winter.

If this precaution had been taken, some parts of Languedoc would not have been deprived of the olive.

*Climate and soil suitable to the olive.**—The choice of soil is generally very indifferent respecting this tree: it is seen flourishing in

* This is certainly the most important question to be determined at present by us respecting the olive. The manner of planting, expressing the oil, or preserving the fruit, will be best learned from those already experienced on this subject. If a careful review is taken of the respective climates, and ranges of hills and mountains of the United States and France, (see p. 22, and sequel of this treatise.) a very satisfactory estimate can be made, upon how far success in the cultivation of, and the proper place the olive in the latter country can be fairly expected to vegetate to most advantage.

rocky, stony, sandy, and volcanignes soil. It is on the latter variety of land that the oil is the best. It vegetates also vigorously on strong alluvial land, though the base is argilaceous.

The more or less prosperity in its vegetation, gives the character to the fruit and oil, allowance being made for the different species. It is not then the quality of the soil that need be sought after, when its simple existence as a tree is the subject of inquiry: it is evident that this existence arises from other causes.

Ancient writers have contended that the olive can exist more than thirty leagues from the sea. This assertion may be true relative to France; but may be considered unfounded relative to all other countries, where the tree in every other respect is found in places suitable to its growth.

A distance of thirty leagues supposes at once an elevation of soil above the level of the sea,* and consequently, a diminution in the height of the temperature of the place.

If what has been said on the word agriculture,† on the subject of basins, is recalled, a solution of this important problem will be evident. It will be seen that in the bailiwick of l'Aigle in Switzerland, that the almond, the pomegranate, and vine, grows in open air, and there enjoys a temperature almost equal to any part of the south of France; whilst in the higher part of the same bailiwick, you find almost the severity of the climate of Sweden. Bayonne is in 44° N. lat.; Carcassonne, Beziers, Montpellier, Marseilles, Aix, Toulon, and Nice, are on the same degree; nevertheless, the olive never can be cultivated at Bayonne, because the shelters are wanting; and because without these shelters the tree does not find the temperature suitable to its habitudes. The chain of mountains that traverses Languedoc from east to west, is only distant from the town of Beziers seven or eight leagues. The southern foot of those mountains are charged with olives; but traverse the mountains in a distance of not more than two or three leagues, you no more find a shelter against the north winds, nor do you find the olive tree; nevertheless this interval is only ten or twelve miles from the sea.‡

The existence of the olive, then, depends not upon its relative distance from the sea, but to the sheltered position in which it is placed. Every one may have seen in the king's garden at Paris the olive growing in open air; but it was there placed on the south side of a close

* It would be impossible for any person, having the most limited knowledge of the southern parts of the United States, to read the above, without being astonished at the great resemblance between those parts and the south of France. The Mississippi, by positively admitting the cold air of the north to pass along its current, produces the same effect upon the climates of places along its banks, that is negatively produced by the Pyrenean mountains upon the basin of the Garonne. The Mobile is the Rhone of North America.

† See page 27.

‡ The mouth of the Black Warrior, where the French colony has located, the land granted by the United States is about 32° 30' N. lat., two degrees of latitude, or nearly one hundred and forty miles distant from the gulf of Mexico. This place is sheltered from the north by tolerable high hills and a thick forest; but as no settlement of long continuance has been made in the valley of Mobile so far north, the vicissitudes of the seasons cannot be determined with any certainty at present.

wall, and otherwise in the warmest part of the garden. It might be, perhaps, concluded from this example, that if the olive could thus survive the rigours of winter in the garden, it would do also in other places. This may vegetate in a languishing state, but is very different from the vegetation necessary for beneficial culture.* The conclusion drawn from the mere possible existence of the olive, are liable to produce the same error that would be made, if it was pretended that the province of Languedoc was as proper for the production of the orange tree, as Nice, Hieres, Toulon, and lower Rousillon; whilst in the former country the orange tree is only cultivated in some gardens, and near the latter places in open air. Exceptions do not destroy a general law, and the exceptions themselves, in this case, rises from favourable situations producing the necessary shelters. The cultivated orange tree in the foregoing places, grows at the southern foot of very elevated and steep mountains. But in places where the necessary shelters are at a distance, neither the orange or olive tree can exist: this is the real reason why the latter does not grow beyond Montelimar in advancing north, nor beyond Carcassonne, following the chain of mountains of lower Languedoc.

The olive demands a shelter from the winds of the north, independently of its geographical position.† This is so true, that in many parts of Provence and Languedoc, where the olive tree is most abundant, there are considerable surfaces where the tree will not exist. Upon many farms the tree languishes visibly each year, where clearing the land has diminished the elevation of the shelter, and permitted the north winds to breathe their frozen air upon the trees, formerly protected from their violence. It is not, consequently, the nearness of the sea that permits the olive to exist, but the particular shelter that diminishes the injurious effects of the north wind. This cause is not, however, the only one that permits the existence, or that aids the growth and production of the olive; it is necessary to its prosperity to be situated in a constant, or almost constant mass of heat. It also derives another advantage from the intervention of the shelters from the north wind. From Nice to Carcassonne, the sheltering mountains are elevated and compact, and all this border of the

* The cherry tree (*prunus cerasus*), has been planted upon the Mississippi, but does not bear fruit abundantly even upon the high hills of the state of Mississippi. The cherry tree adds another to the many existing facts, that fruit bearing trees may be reared in places where their produce will not reward the trouble of their culture. When a given vegetable has been introduced into any country, only one step is taken in the investigation of the subject of its beneficial cultivation. Darby's Louisiana, 2d Ed. p. 220

† The facts stated above are much in opposition to an opinion very common, and even in some measure adopted by the author of this treatise, that vegetables have a tendency to accommodate themselves to climates to which they may be transplanted. More experience has, however, led to doubts of the correctness of this conclusion. If, as the Abbe Rozier states, the olive tree was introduced into France by the Phœceans, it must have existed there when his work was published (1786) 2300 years. From the best accounts extant, the colony of Greeks that formed Marseilles entered the country about 800 years before the Christian era.

There is no doubt, however, but that the olive tree has existed in the south of France upwards of 1800 years; of course, if it is now subject to destruction by frost, it must have received but little alteration in this long period.

kingdom lies directly opposite to the coast of Africa. It is from that cause that the southern air is retained, concentrated, and produces an atmosphere most suitable to the full developement of the olive tree and its fruit. The heat is much more intense than if it was freely permitted to advance farther north.* The Pyrenees prove, beyond contradiction, the correctness of the theory advanced. If a line north and south is drawn through France from Africa, intersecting the eastern extremity of the Pyrenees, it will leave the olive tree entirely to the east; because though the north side of the Pyrenees is in part sheltered from the north, the intensity of the heat is less than in front of the Mediterranean, since the former place is deprived of the air of Africa, or if received, it is after the heat is decomposed in passing the summits of the Pyrenees, charged with snow nine or ten months in each year. This African air extends its influence to Montelimar. Ascending the Rhone from the sea, the different mountains are not of sufficient elevation or compactness to decompose or arrest the passage of the heat; but beyond Montelimar and on the opposite side of the Rhone, rises a chain of mountains that has there the same effects produced by the Pyrenees, after passing Carcassonne to Toulouse.

It appears to me that it is demonstrated that in France the prosperity of the olive tree depends upon the foregoing circumstances. If the tree succeeds better in other countries and in other climates, the effect ought to be attributed to more favourable situations, arising from approach to the south, or to more complete shelter. The olive dreads cold, but how far heat is congenial to it, has never been determined. The Spaniards have transported a species of the olive to Lima, and the fruit has increased to twice or three times the size it had in France. We are assured that in South Carolina,† plantations of olives have already succeeded; from which we may conclude, that it depends upon the inhabitants themselves of the warm parts of America to multiply the olive tree.

M. Barthez, in his collections of the agricultural memoirs for that part of the kingdom on the coast of the Mediterranean, induces a hope that this tree may be introduced into the interior of France. I breathe the same hope with all my heart, but I strongly doubt the success. Admit we have in the interior very excellent sheltered situations from high and majestic mountains; but we have not there the warm air of Africa; its heat is decomposed and lost in passing over

* This is the true cause why, in the same latitude, the valley of the Mobile is more temperate than that of the Mississippi, or the Province of Texas.

† We have not been able to obtain any certain documents respecting the culture of the olive in Carolina and Georgia. Mr. Hugh McCall, in his history of Georgia, mentions indigo, but not the olive, as being introduced into that country before 1766.

In an excellent work entitled "an historical account of the rise and progress of the colonies of South Carolina and Georgia," published in London, 1779, the olive tree is not enumerated amongst the cultivated vegetables of the country.

The United States having been peopled from the British Islands, where butter was used for the same purposes to which olive oil is appropriated in the south of Europe, the people have neglected, and continue to neglect a culture, to the detail and benefits of which they are strangers, and attend to the production of that article, to the use of which they are habituated.

the cold tops. The southern winds produce two opposite effects, following the humidity or dryness with which they are charged from the state of the mountain over which they have passed, at the time of their passage. We may take the Pyrenees for example. If this chain is covered with snow, the south-winds passing over it are no longer warm, they are ever extremely cold. Daily experience proves the correctness of this assertion; where this chain is clear of snow, if it is still humid the south wind is moist and cold. If, on the contrary, there has been no rain or snow on these mountains for any considerable time, the heat becomes violent, so much so, as often to wither, and even dry the leaves of the trees and vines. The same phenomenon takes place relative to the chain that traverses Languedoc. The inhabitants of the maritime towns, south of this chain, experience violent, and even very violent heat, in times when the north wind blows, if the summits of the mountains are then dry; but if they are humid, freshness prevails. As to the inhabitants to the north of the latter chain, they experience the same vicissitudes as do those north of the Pyrenees. All this is annually proved. Thus in rising from the south to the north, and following the order and disposition of the mountains, the elevation of the base augments, and the same winds have intrinsically less activity, since they have lost part of their heat in passing from mountain to mountain. It may be said, perhaps, that the heat of the south wind ought to augment in passing over dry mountains, but the base of this proposition is unfounded. The south parts and the interior of France are very different. In the former, the heavens are almost without clouds in summer, and it rains very seldom; on the contrary, in the interior it rains frequently, and each rain superinduces cold from the evaporation that follows. From hence, there is not in the interior of the kingdom, either the continuity or intensity of heat suitable to the olive. During severe winters, the vines in the sheltered places in the interior suffer from cold, and often perish; what would then be the fate of the olive?

Notwithstanding the shelters, the olive tree does not, in Languedoc and Provence, flower before the end of May, or beginning of June, and its fruit is not ripe before November or December,* which supposes that the intensity must be exactly suitable, even in the climates most favourable to the olive; since as soon as the shelter is wanting, even in the neighbourhood of places where it flourishes, the tree falls a victim to the cold.

All the waters of the kingdom flow from the centre of the kingdom into either the Mediterranean or the ocean; consequently the centre is more elevated than the extremity. Whatever favourable circumstances may be united in any one place in the interior, that one of all others most necessary must be wanting—suitable and continued heat.

* From this it appears that the period between the flower and the fruit of the olive, is about 150 days, or one-third more than eastwards, between planting and commencing to gather cotton, and very near coeval with the time that elapses between planting and ripening sugar cane. From vegetable analogy, we may then very rationally conclude, that the olive and sugar will exist together, or rather in similar climates.

I am unable to say if the result of my observations on the effects of cold will answer in all the olive districts of France, but will answer for their correctness near Beziers, at least during seven years that I resided near that place.*

1°. The cold felt in the month of January, every thing else equal, is not so injurious to the olive as those that follow in the course of February, more so towards the end of that month, and still worse in the beginning of March. Frost of about eight days continuance happen sometimes, but not often, in January. As soon as the frost ceases, or during its intervals, the mass of heat is from four to six degrees of Réaumur's thermometer during the day, and from three to four in the night. From four to six may be considered the mean term, because often when south winds prevail, the heat is from eight to ten degrees of Réaumur.

Frost is here only produced by the north-northwest wind, a direction given to the winds by their striking the Black mountains. When these mountains are charged with snow, as well as those in front of Beziers, the air passing over them is rendered cold, and carries frost to Beziers, where it never freezes, unless when those mountains are covered with snow.

2°. If there is not severe frost in January, the fields exhibit a rapid advance of vegetation; the elder (sureaux) and several other hasty shrubs put out their leaves; the violets are in flower; vegetation is renewed, and even the almond flourishes. The advance of the season is particularly visible in the olive, which is more vigorous during the whole season than ordinary, if not again interrupted by frost. Under the common changes of the air from heat to cold, the surface of the earth retains a part of the heat, and contributes to the flow of the sap.

3°. If frost happens in February, and is severe, attended with violent winds, it then produces severe effects upon the olive; but if the frost is not attended with violent winds, it produces less effect upon the olive, because attended with less evaporation.

4°. If the frost follows after a rain, and particularly if followed by snow and wind, its effects are terrible on the olive. In this case the olive tree is in a similar state with a man's arm, which if exposed to a stream of air from a bellows, and upon which ether would be continually dropped, the arm would be frozen stiff even in the dog-

* There is no subject upon which the common herd of tourists pronounce their opinions more hastily than upon climate; and ignorant as they are on all subjects in most cases, there is none upon which they are less qualified to judge correctly than upon climate. Travelling rapidly often in the night, never remaining long enough in any place to gain even a tolerable knowledge of the topography of a country, much less of its climate.

Every country, like every man, has its own peculiar temper and construction that cannot be known, except by long and intimate acquaintance. Few persons possess either the preparatory science or patience to examine carefully the topographical features of any region of the earth, and from that source explain the causes of the variations perceptible between places, that to superficial observers ought to present similar phenomena. In that part of the United States to which this chapter is applicable, there are, on the same line of latitude, three distinct climates. (See page 31 of this treatise)

days. The current of air, by exciting evaporation, aids the effects of the cold in both cases.

My reasons for making these observations is to prove that the olive cannot be made to exist in the interior of the kingdom; and that it is useless to think of cultivating the tree in places where there is not a single place in which there does not happen, once in six or seven years, a frost of at least ten degrees of Réaumer, preceded by rain and snow. I have good reason to assert that Provence and Languedoc, and a part of low Dauphiny, is endowed by nature with a privilege that the inhabitants of the other parts of the kingdom may envy, but can never obtain.

It is frequently repeated, that the olive grows best on the south slopes of hills; this proposition is true in general, because the inclination of the soil augments the refraction of the rays of the sun, and consequently the heat; but if the plain is well sheltered, as it is from Nice to Toulon, the olive will succeed much better than on the hills, because the tree finds in the latter a deeper soil, more charged with vegetable and animal matter, since the surface of the plains is formed by the ruins of the hill, borne down by rains.

The great point is shelter, and that shelter that retains the greatest quantity of heat. The soil of itself only contributes to the beauty of the tree, or to the quality of the oil relatively to the species of tree, or grain of the earth. It is the shelter that secures the duration of the olive, and defends it against its most cruel enemy and only destroyer, the cold; because it is only the cold that prevents us from giving the title of *immortal* to this tree.

There are yet seen between Toulon and Nice beautiful olive trees that escaped the dreadful winter of 1709.

Why the olive succeeds better in rocky, stony, or sandy land, than in argillaceous hard soil, is, because the rocks, stone, and sand accumulate more heat, and preserve it longer than does argillaceous, or chalky land; and the sap from the former is less abundant, more pure, and more refined, than from more humid soil. For the same reason aromatic herbs have more rich perfume in rocky, or sandy, than in low, rich soil. It is the same with vines. Wherever trees imbibe a too abundant sap, their fruits are defective in quality. You here see the entire effect of the grain of the earth upon the quality of the fruits. It is the same with the olive as with all other fruits, and even all legumes.

The following account of the olive is extracted, verbatim, from Miller's Gardner's Dictionary, a deservedly esteemed work; and as the directions for planting and preserving the tree was wrote for the climate of England, they may be of great use to any person desirous to make experiments on the culture of the olive in America in places where, from the rigour of the seasons, the tree would demand peculiar care.

* If this is correct, the frost and wind that was experienced in the beginning of April, 1814, at Orelousas, would have destroyed the olive tree. The flowers and the branches of the pride of india, of the pecel, and even of the oaks, were killed.

Olive—characters are; it has a small tubulous empalement (calyx) of one leaf, cut into four segments at the top. The flower consists of one petal which is tubulous, and cut at the brims into four segments, which spread open. It has ~~two~~ short stamina terminated by erect summits, and a roundish germen supporting a short single style, crowned by a thick bifid stigma. The germen afterwards turns to an oval, smooth fruit, (or berry,) with one cell, enclosing an oblong oval nut.

This genus of plants is ranged in Tournesfort's second section of his twentieth class, which includes the trees and shrubs, with a flower of one petal, whose point turns to a fruit with a hard nut.

The species are,

1. *OLEA, foliis linearilanceolatis subtus incanis.* Olive with linear spear, shaped leaves, which are hoary on their under side. This is the *olea fructu oblongo minori*,* olive with a smaller oblong fruit, commonly called Provence olive.

2. *OLEA, foliis lanceolatis, fructu ovato.* Olive with spear shaped leaves and egg shaped fruit. This is the *olea fructu maximo.* Olive with the largest fruit, commonly called Spanish olive.

The first sort is what the inhabitants of the south of France chiefly cultivate, because from this species the best oil is made, which is a great branch of trade in Provence and Languedoc; and it is the fruit of this sort which is most esteemed when pickled. Of this there are some varieties; the fruit is called olive picholine: there is another with smaller and rounder fruit; but these are supposed to be only accidental varieties, which have arisen from the same seeds. I have not enumerated them.

The olive seldom rises to a large tree, and is rarely seen with a single stem, but frequently two or three stems rise from the same root; these grow from twenty to thirty feet high, putting out branches from their sides almost their whole length, which are covered with a gray bark, and garnished with stiff leaves about two inches and a half long, and half an inch broad in the middle, gradually diminishing to both ends. They are of a lively green on their upper side, and hoary under, standing by pairs opposite. The flowers are produced in small branches from the wings of the leaves; they are small, white, and have short tubes spreading open at the top; these are succeeded by oval fruit, which in warm countries ripen in autumn.

The second sort is chiefly cultivated in Spain, where the trees grow to a much larger size than the former sort; the leaves are much larger and not so white on the under side; and the fruit is near twice the size of the Provence olive, but are of a strong rank flavour; and the oil made from these is too strong for most English palates.

Both these sorts are preserved in the gardens of the curious, but they are rather too tender to thrive in open air: in the neighbourhood of London, where they are sometimes planted against walls, and with a little protection in very severe frost, they are maintained pretty well; but in Devonshire there are some of these trees, which have grown in the open air many years, and are seldom injured by the frost; but the summers are not warm enough to bring the fruit

* Tournesfort, Inst. R. H. 599. Ibid. 599.

to maturity. There were several of these trees planted against a warm wall at Camlden house near Kingston, which succeeded very well, till their tops were advanced above the wall, after which they were generally killed in winter, so far down as the top of the wall.*

The olive was considered by the ancients as a maritime tree, and they supposed it would not thrive at any distance from the sea; but by experience, we find they will succeed very well in any country where the air is of a proper temperature of heat, though the trees are found to bear the spray of the sea better than most other sorts.

In Languedoc and Provence, where the olive tree is greatly cultivated, they propagate it by truncheons split from the roots of the trees; for as these trees are frequently hurt by hard frosts in winter, so when their tops are killed, they send up several stalks from the root; and when these are grown pretty strong, they separate them with an axe from the root; in the doing of which they are careful to preserve a few roots (radicles or fibres) to the truncheons. These are cut off in the spring, after the danger of frost is over, and planted about two feet deep in the ground, covering the surface with biltter, or mulch, to prevent the sun and wind from penetrating and drying the ground. When the plants have taken new root, they are careful to stir the ground and destroy the weeds.

This tree will grow in almost any soil; but when it is planted in rich moist ground, they grow larger and make a finer appearance than in poor land; but the fruit is of less esteem, because the oil made from it is as that which is produced in a leaner soil. The chalky ground is esteemed the best for these trees, and the oil which is made from the trees growing upon that sort of land, is much finer and will keep longer than the other.

In the countries where the inhabitants are curious in the making of their oil, they are frequently obliged to get truncheons of the ordinary sort of olives to plant; but after they have taken good root, they graft them with the sort of olive which they prefer to the other. In Languedoc they chiefly propagate the carneau, and the amphoulan, and moureau, which are three varieties of the first species: but in Spain the second sort is generally cultivated, where they have more regard to the size of the fruit and the quantity of oil they will produce, than to their quality.

If the culture of these trees was well understood by the inhabitants of Carolina, and properly pursued, it might become a valuable branch of trade to them; for there is no reason to doubt of their succeeding,

* This fact is decisive as to the effect of shelters upon vegetables. Hills, mountains, and thick forests, are, on the large scale, what walls, buildings, and hedges, are in miniature. The prominent features of the circumjacent country cannot be too carefully examined, when the introduction of a tender vegetable is intended. In experiments, too much care is in common expended upon vegetable itself. It is the cause why in so many instances essays perfectly satisfactory on a small scale, entirely fail when brought to practical use in extensive experiments.

Every vegetable upon which essays are made, ought to be planted as near as possible in a similar situation to where, of consequence, it must be placed when brought to use. There have been many deceptions in respect to sugar cane, arising from inattention to this very single and almost obvious rule.

the summers there being hot enough to ripen the fruit to its utmost perfection.

In this country (England) the plants are only preserved by way of curiosity, and are placed in winter in the green-house for variety. So I shall next give an account of the method by which they are here propagated, with the manner of treatment.

The plants may be propagated by laying down their tender branches, (in the manner practised for other trees,) which should remain undisturbed two years, in which time they will have taken root, and may then be taken off from the old plants, and transplanted either into spots filled with fresh light earth, or in the open ground in a warm situation. The best season for transplanting them is in the beginning of April, when you should, if possible, take the opportunity of a moist season; and those which are planted in spots should be placed in a shady part of the green-house, until they have taken root; but those planted in the ground should have mulch laid about their roots, to prevent the earth from drying too fast, and now and then refreshed with water; but you must by no means let them have too much moisture, which will rot the tender fibres of the roots and destroy the trees. When the plants have taken fresh root, those in the spots may be exposed to the open air, with other hardy exotics, with which they should be housed in winter, and treated like myrtles and other less tender trees and shrubs; but those in the open air will require no farther care until the winter following, when you should mulch the ground about their roots, to prevent the frost from penetrating deep into it; and if the frost prove very severe, you should cover them with mats, which will defend them from being injured thereby; but you must be cautious not to let the mats continue over them after the frost is past, lest by keeping them too close, their leaves and tender branches should turn mouldy for want of fresh air, which will be of as bad consequence to the trees as if they had been exposed to the frost, and many times worse; for it seldom happens, if they have taken much of this mould, or have been long covered, so that it has entered the bark, that they are ever recoverable again; whereas it often happens, that the frost only destroys the tender shoots; but the body and larger branches remaining unharmed, put out again the succeeding spring.

It will appear demonstrated, from what has been given to this treatise, that as far as ripening their fruit is concerned, that the vine and olive may be both introduced into the southern parts of the United States; but there is another very important problem that remains unsolved—how far the stems and roots of those trees can support the rigours of the winters of Alabama and the state of Louisiana.

As respects the effects of frost upon their fibres, vegetables may be divided into classes:

1°. Those shrubs and other plants whose leaves remain undestructible by ordinary frost. The most remarkable of these are, the pines, firs, cedars, most laurels, and in the United States, the live oak, and large reed cane, *arundo gigantea*.

2°. Those vegetables whose leaves perish, and generally fall to the ground by frost; but whose stems or trunks remain uninjured, and

annually protrude new leaves and branches. In this class is included by far the greatest part of forest trees and shrubs.

3°. Vegetables, whose leaves and stems perish by the action of frost; but whose roots, protected by the earth, remain uninjured, and annually produce new stalks, leaves and flowers.

4°. Those plants which are destroyed entirely by frost, or which otherwise perish in less than a year, and the species of whom are annually renewed from seed.

5°. To the above may be added a fifth class of plants, which have a stated existence of one or more years, and then perish, influenced by external causes.

In the third class is the sugar cane, and that species of cotton cultivated in the United States. In the fourth class are all our most valuable culinary vegetables; wheat, rye, maize, oats, barley, rice; all cultivated plants of the papilionaceous tribe, beans, pease, and lupines; both species of potatoes, and all the species of pumpkins, squashes, gourds, melons, and cucumbers.

Cotton, though replanted annually in the United States, its roots can be made to survive the winters of Louisiana, Alabama, and Georgia. Very little protection is necessary to permit the principle of life being perpetuated through the winter, but if thus renewed, we are unacquainted how long the vegetable would continue to exist by this mode.

Sugar cane is, on the Mississippi, cultivated by laying the stalk in furrows, and from the joints new stems arise. The body of the plant, though more tender than that of cotton, its roots are more hardy, and easier protected from the frost. A slight covering is sufficient to guard the roots during winter; and in this manner the plant is reared two or three years, when it is generally renewed by layers.

Did not the cotton and sugar yield their respective products annually, and if a perpetuity of their stems were necessary, neither could be cultivated in the United States.

The flower and fruit of the olive are placed very nearly in the same state as the entire stems of the sugar cane and cotton. Without considering the trunks of the two former, we may view the life of these four vegetables as gradually approaching each other. It will be seen, by comparison, that the time from planting to the ripening of sugar cane, and from the blossom to the ripe fruit of the olive, is very nearly equal; and if the soil necessary for sugar cane and the olive tree were similar, the two vegetables would be easily cultivated together. This, however, not being the case, the former, demanding a deep loam, will always be confined in extent, whilst the latter, growing indifferently upon all soils, may be propagated wherever the air is sufficiently warm and steady to admit its growth.

The orange tree, though an evergreen, is tender, and yields to frost at a cold but little more severe than necessary to destroy sugar cane; it will not exist much above the latter plant, and not so far north as even the olive.

The vine and cotton will accompany each other. Where the summers are sufficiently long to admit the latter to perfect its fruit, the

former may also; but the winters may destroy the vines in places where, from reasons already shown, the cotton may be cultivated.

It will appear obvious, that to determine whether any vegetable can be transplanted from one given place to another, that four things are necessary to be known, and when once determined, the problem is solved without the expense of actual experiment. If, for example, the valley of Mobile, Provence in the south of France, and the olive tree are taken as examples.

1°. The extremes between frosts in the respective places, or, in other words, the length of the absolute summers.

2°. The intensity of their winters, and the ordinary quantity of frost and snow.

3°. The summer life, or more explicitly the time between the flower and ripe fruit of the olive.

4°. The degree of cold at which the tree perishes.

If it was found that more days intervened in the Valley of Mobile, between spring and autumn frosts, than did between the blooming of the flower and ripening of the fruit; and if it was also determined that the frost of the Mobile Valley was less intense than those that destroyed the olive tree, then all apprehension of danger from a change of climate would vanish.

The same rule holds good respecting all other vegetables.

The decadence of vegetables is often an evil almost equal to their entire destruction. This deterioration frequently rises from a cause mostly overlooked. Amongst the modes of perpetuating the species of vegetables, nature admits of one not common to the animal kingdom.

Most trees, sugar cane, all bulbous, and most tuberous rooted vegetables, may be continued and multiplied without seed. Branches of trees and the stems of sugar cane will vegetate, if placed in the earth at proper times, and produce trees and stems in all respects similar to the parent stock. Potatoes are constantly produced in the same manner; but this is merely multiplying the branches of the individual; the absolute species cannot be renewed except from seed.

All vegetables having their periods of increase, duration, and decline, cannot be made to exist beyond a certain length of time. Nature seems to have admitted but one certain mode of perpetuating life indefinitely; a recurrence to the fountain of existence. When it is mentioned that any tree is multiplied by layers, it ought not to excite wonder that the individuals languish and perish. That species of poplar cultivated in the United States under the vulgar name of Lombardy poplar, belongs to the 22d class dioecia of Linnæus, or trees having male and female flowers on different trees. Only the male tree exists in the United States; the individuals are formed from branches, and is no doubt one cause of the languishing and wretched appearance of this tree in most places where it exists in the United States.

The olive, cherry, apple, and peach are all capable of being thus produced, and all must submit to the laws of nature. Sprouts from

the roots differ in nothing essentially from the highest twig. If each were planted in the same orchard, if taken from the same tree, their produce would be similar in quality.

Potatoes exhibit the same phenomena, and though, comparatively with their rapid growth, their decadence is more slow, it is not less certain.

After those vegetables necessary to human subsistence, the most important that man has appropriated to his use is COTTON. There is no known vegetable capable of being brought to perfection on so great variety of soil. Being brought from within the tropics, its fibres are tender, but its growth is rapid. The great value of cotton will justify some detail respecting planting, produce, and price.

The time of planting cotton varies with the particular climate. In the neighbourhood of New-Orleans it is planted early in April; at Natchez, and on Red river, about the middle of that month; in Tennessee and Missouri Territory, about the first of May. The cotton, in the first stages of its growth, is a remarkably tender plant; the slightest frost destroys it, and even cold rains sensibly check its growth. It is planted either in drills or squares; the former is generally considered the most productive mode.

In all cases a much greater quantity of seed is planted than is supposed to produce stalks. The number of stalks permitted to remain, depends upon the strength of the soil; but from the branching nature of the plant, the stalks are, on every kind of land, left at a very considerable distance from each other.

The manner of planting, ploughing, hoeing and weeding cotton, differs but little from the same necessary routine of labour in cultivating maize. The former, from its humbler height, suffers more from weeds than the latter. Cotton is also in its first stages much more slow of growth than maize.

The time that elapses from planting to the commencement of gathering cotton, does not vary very much from four months, or about one hundred and twenty days. If the extremes between the spring and fall frosts of any given place are ascertained, its fitness for the culture of cotton is determined. It has been observed in this treatise, and may be again repeated, that cotton will grow upon every variety of land upon which any useful vegetable can be cultivated.

The botanical characters of the cotton are curious to those unacquainted with the family to which it belongs. Upon the same stalk are seen, at the same time, the fruit and flowers in all stages of vegetation. Like other plants of the class *Monodelphia*, such as hollyhock, marsh mallows, ockra, and hibiscus, cotton continues to produce flowers as long as frost permits. Of the flowers, most common in the northern states, the large white holly hock resembles the herbaceous cotton of Louisiana most.

Cotton grows with an upright herbaceous stalk, from which are irregularly protruded a number of stems. The flowers are produced upon the stalks, and are followed by an oval, green, pointed capsule, with three cells, in which are enclosed a number of seeds, enveloped in the soft silky down, that has been appropriated by man to so many

uses of convenience and elegance. The down adheres to the seed with great tenacity, but is easily detached from the capsule.

Gathering the cotton is entirely done by the hand, and demands great care in the operation. A circumstance in the natural history of cotton, contributes to render its collection, free of dead leaves, difficult and tedious. Its calyx is an abiding peryanth, which often becomes dry long before the cotton ripens, and enveloping the capsule, its broken fragments are very liable to be dragged out with the cotton. The black specks seen in most cotton are pieces of the peryanth, intermingled in this manner with the down.

The capsule of cotton continues about the size of a pigeon's egg, until nearly the time of ripening the seed, when the sutures of the capsule open, and expose the snow-white down. The down appears to be a provision of nature for the protection of the seed, and as in all known cases of the same kind, comes to full perfection before the fruit. From this reason it arises, that frost annually destroys an immense quantity of seed, without materially injuring the down, in which this seed is enveloped.

The quantity of cotton that can be made upon, and collected from an acre, differs greatly. Below 33° north latitude, one thousand weight is considered about a medium. The relative weight of seed and down is about three-fourths of the latter, to one-fourth of the former; therefore, two hundred and fifty lbs. of clean cotton would be the medium produce of an acre.

A labourer will cultivate, with ease, more than twice as much cotton as he can collect. There is no manual labour done by man, where the quantum that is performed by different men, of equal strength, differs so greatly as picking cotton. The ordinary amount allowed for a day's labour, is between fifty and sixty pounds: two hundred has been collected by one person in one day. The author has seen children collect into baskets more cotton than they were able to carry to the place of deposit. It may indeed be justly considered as one of the excellencies of the culture of cotton, that in its collection no manual labour is lost. Neither age nor childhood, if in health, is prevented from giving its aid in this innocent and useful pursuit. Children from eight years old can be employed to advantage.

At Natchez, and south of that place, the gathering season begins about the first of September, and continues, in an ordinary season, between three and four months. Allowing for stormy weather, Sundays, and other interruptions, ninety days is about a medium harvest; and allowing an average for forty lbs. per day, will give 4500 lbs. as the amount that one person will collect in a season. This quantity has been exceeded but seldom, particularly if the number of hands on the farms were numerous. There is always a decrement of produce following the increase of labourers.

The bale varies in weight: 320 lbs. is about a medium. That farm produces well, where three and a half bales of this size are made to each hand; four such bales is an excellent crop. It must be understood, however, that the same labourers raise maize, potatoes, and other vegetables for nourishment. From the ability of

cultivating more cotton than can be collected by the same labourers, leisure is given to cultivate also vegetables for food.

Cotton seed has generally been thrown away, or suffered to remain—a disgusting nuisance about the cotton gins; it has sometimes been used as a manure, for which purpose it is excellent.

That the neglect of cotton seed is an useless and wanton waste of wealth, cannot be doubted. The quantity of oil that might be taken from the seed would reimburse, at no great additional expense, the planter; throwing it to waste, is as ill judged as it would be to pour out on the earth the molasses from a sugar house.

The enlightened society in Great Britain, instituted at London, for the encouragement of arts, manufactures and commerce, amongst other objects of their attention, have, at different times, offered premiums for samples of cotton seed oil.

In 1783, the society* being informed that a considerable quantity of oil can be obtained from seeds of cotton, and that after the expression of the oil, the remaining cake will afford a strong and hearty food for cattle; and that the apparatus for the operation can be applied to the mill for sugar canes, and worked in the rainy season, at a moderate expense, “*have resolved, for the foregoing reasons, that the procuring oil from the seed of cotton is a proper object of a premium, considered as an encouragement for planters to extend the cultivation of cotton, an article essentially necessary to increase the manufacture of that article in this country.*”

“The society therefore offers as follows:

“OIL FROM COTTON SEEDS. To the Planters in any of the British Islands of the West Indies, who shall express oil from the seed of cotton, and make from the remaining seed, hard and dry cakes, as food for cattle; the gold medal.

“Certificates, that not less than one ton of the oil has been expressed, and five hundred weight of the cakes obtained, to be produced to the society with two gallons of the oil, and two dozen of the cakes, together with a full account of the process, on or before the last Tuesday in November, 1785.

“For the next greatest quantity, not less than half a ton of oil, and two hundred weight of the cakes; the silver medal.”

This certificate was renewed in 1784, '85, '86, '87, '88, '89, vide. vol. 2, 3, 4, 5, 6, and 7, of the Transactions of the Society.

This quotation is introduced here to show, that the practicability of making oil from cotton seed, is not a recent discovery. It does not appear that, between 1783 and 1789, the Society of Arts obtained any samples of either the oil or cake. Their certificate exhibits the liberality of the society, but it is evident the members did not comprehend the subject very clearly. Demanding so large a quantity as a ton of oil, rendered all experiment abortive, as far as their premium extended, where a less quantity would have been produced. All the necessary details, and what is every thing in such cases, the quantity of oil to a given weight of seed, and the mean

* Vol. I page 261, sec. 175.

expense of extraction, could have been determined by a process where only a few hundred gallons, or less, of oil would have been made. Whether the cake, or refuse, after the oil is pressed out, is of any value or not, seems to be of very little consequence. If the oil, after the expense of pressing and barrelling, is of sufficient value to justify an attention to its production, is the only desideratum.

The quantity of oil that cotton seed will give, has never been determined with sufficient accuracy to enable us to state its relative production, with that of the down, to any certain degree of accuracy. If the estimate made by Mr. Niles* of the quantity of clean cotton, made in the United States in 1816, is correct, there must have been produced in that year, 125 million pounds of cotton wool. The proportion of clean cotton wool to that of the crude mass, including the seed, has been found very nearly as one to four. Persons holding cotton gins are obliged to deliver one lb. of clean cotton for every four lbs. of the mass in seed, for which their receipts are given. If this proportion is correct, and no result seems better proved, and the estimate of Mr. Niles is also received as accurate, then 375,000,000 lbs. of cotton seed was wasted in 1816. If one hundred pounds of seed is allowed to produce one gallon of oil, this mass of seed would have produced 3,750,000 gallons of oil, which at 12 1-2 cents per gallon, would amount to \$468,750.

That this estimate is very much under-rated there is no doubt. It appears certain, that an annual sum of not less than a half million of dollars is thus supinely wasted.

There is no other wealth than human labour, and its products are too painfully obtained to justify or excuse their wilful loss. The cotton seed in bulk, near the gins, is an intolerable nuisance, as respects its smell and appearance. Hogs and cows devour it with great avidity. So much down, however, remains upon the seed, that it frequently destroys the former kind of animal. When the seed remains some time in bulk, if exposed to rains, the down rots, and leaves the seed a nutritious food, particularly for hogs.

From the data given above, any person, by knowing the manual force at his command, can calculate in a few moments the prospect of gain by removing into a cotton district. The tables, page 9, of this treatise, exhibits the relative value of five staples, sugar, cotton, rice, tobacco, and indigo, but does not determine the respective value of those staples, and that of grain, or any other product of the middle, northern, or eastern states. Any person knowing his revenue from the latter, can, with mathematical precision, calculate the benefits of change to the cultivation of the former.

One-fourth of the amount is allowed for the expense of cleaning cotton from the seed, the purchase of duck, and cordage, and transportation to market. From individual experience the author of this treatise is fully convinced, that this is an ample allowance, if taken generally.

A description of the machinery made use of to free the down from the seed, would be unsatisfactory; it is sufficient to say, that the gins

* See page 125.

and presses are now brought to great perfection. The neatness and facility with which the various operations are now performed, compared with the slow, clumsy, and laborious process used fifteen years ago, is a compliment paid to the progress of the arts most essentially necessary to mankind.

Another vegetable, the okra, of the same class and order with cotton, is cultivated in Louisiana as an article of food. The flower and stalk of this plant have great resemblance to the holly hock, but grows higher. The seed vessel is a long pointed, many seeded capsule, which, when young, is tender and mucilaginous. This is the part used as food: mixed with soup and otherwise, it is considered extremely wholesome.

Sugar, in places where it can be cultivated, will always, in the United States, be considered the most important staple. The extent of country upon which this vegetable can be reared, is so limited as to much abridge its general value. The surface upon which it can be produced, and the quantity and price of sugar, have already been fully exhibited in this treatise.

Rice can be cultivated much more extensively than sugar cane; its net proceeds, however, when reared as a staple, is much less than from the latter plant. When produced as an article of food for home consumption, rice differs very little, if any, from maize. The quantity of sustenance that can be produced from the same sum of human labour, when exerted upon either of these two plants, is very nearly equal.

One peculiarity of rice will confer upon it an increasing value; as lands become scarce, and consequently dear, it can be successfully and profitably produced on lands unfit for cultivation of most other useful vegetables. Low land, if the soil is naturally fertile, can often be brought into use by planting rice, upon which neither sugar cane nor maize would vegetate.

Tobacco can be cultivated commensurate with maize, and far more extensively than cotton. Many very serious objections exist against tobacco as a staple. Its culture injures the soil more than any other known vegetable, and when produced, it is utterly useless for any purpose of subsistence, or other application to the real wants of mankind. The ordinary interruptions in commerce must fall much more severely upon a people who cultivate tobacco, than upon those who cultivate grain, or even cotton or sugar.

The same objections will apply to indigo as to tobacco, and with almost as much force. Indigo admits of at least one real application, however, to the ornament, if not to the real necessities of mankind; and therefore possesses, what tobacco does not, one quality to redeem its culture from the reproach of being a pernicious encroachment upon the beneficial application of human labour.

The cereal gramina* are now particularly and may be all produced

* Literally, bread-grass, or grasses from whose seed bread is made. The most valuable of these plants cultivated in the United States are wheat, rye, maize, oats, barley, and rice. Buckwheat (*polygonum fagopyrum*) though a

within the limits we have been reviewing, to any assignable extent. Wheat, maize, rye, oats, barley, and rice, are by far the most important plants yet brought into use by mankind. One or more of these vegetables have nourished the human race in all ages and in all stages of society. When a comparison is drawn between the positive value, or the real benefits to mankind of wheat, or maize, and the same species of even sugar cane or cotton, the latter shrink to almost nothing. Custom induces us to undervalue what we are in the habit of using daily.

Next to the cerealia in the United States are the two kinds of potatoes. Two tuberous rooted vegetables of very different botanical characters, have received the name of potato. These two vegetables very seldom acquire the full developement of their growth in the same place. They present one of the many instances, showing that where one useful vegetable declines, another, whose qualities answer the same purposes, offers itself. The grape and apple, maize and wheat, cotton and flax, and the two kinds of potatoes, are remarkable examples of this fact. The turnip should be considered amongst the most useful vegetables in America. There are none that can be reared with so little expense. The turnip, though less nutritious, can be much more easily preserved than the potato. The turnip and Irish potato flourish and decline in nearly the same places; neither are ever seen in any considerable degree of perfection in the same place with the sweet potato.

Of fruits cultivated in the southern part of the Mississippi valley, the peach is the greatest in quantity, and perhaps in value. The apple below 35° N. lat. may be said to cease as a beneficial object of culture; the inhabitants are supplied, however, with that fruit from the settlements more northwardly. No city in the United States is more cheaply and plentifully supplied with apples than New Orleans.

The fig grows abundantly and luxuriantly in all regions below 33° N. lat. The large yellow fig from the south of France is the species most common. There are several other kinds, however, some of whom are too tender to sustain the rigours of the frosts above 30° N. lat.

The pear tree south of 33° N. lat. becomes not worth the room it occupies. The same remark applies to the cherry. The quince bears abundantly, as does the pomegranate, and many species of excellent plums.

Of wild fruit, the greatest in quantity is that of the black and dew berry. The quantity of the former upon the high, rich lands, and of the latter in many places along the margin of the streams of Louisiana, is really a matter of astonishment.

The states of Louisiana and Mississippi may be emphatically called the favourite soil of the persimon, *diospyros virginiana*. The persimon tree grows on all lands, from the highest hills to the lowest swamps; it attains the size of a considerable forest tree, being often

cereal plant, is not a grass; in the Linnæan system it is ranked "*octandria try-*
gynia"

found near two feet in diameter, and always a high tree compared with its thickness. The sweet gum is the only tree in Louisiana, found in as many and in as different places as the persimon. The productiveness of this tree seems not to depend upon its position: the author has seen individual trees loaded with fruit on the highest hills near Natchez, and in the lowest swamps of Atchafalaya; in the deepest recesses of the heavy cane brakes of Bayou Bœuf, and upon the alluvion of the Sabine. High pine woods are the only parts of the country where the persimon is not plentiful; but even there, the tree is never absolutely wanting. The quality of the fruit is every where excellent. There is much reason to believe that the persimon could be applied to uses to which it has not yet been appropriated. It can be produced in situations where but few other useful vegetables and no other fruit tree will grow.

It contributes, however, to human support indirectly by feeding swine, which devour this fruit with great avidity.

Many species of native grape vines abound; the most worthy of notice are the highland purple grape, the parsley leaved river grape, and the muscadine. They are all unimportant, except as they seem to indicate the possibility of a successful manufacture of wine.

The quantity, excellence, and variety of the juglans on the Mississippi has, perhaps, no parallel on the globe. Black walnut, white walnut, and seven or eight distinct species of hickory, are found; the most delicious of the latter is the paccan, or Illinois nut. These nuts, with acorns, constitute no small part of the nourishment of the swine.

The size, majesty, and productive qualities of the oak of Louisiana, have been the subjects of admiration to all men who have travelled the country, and have attended to the products of nature in this prolific region. If the *liriodendron tulipifera* be considered the first tree of America in point of elegance and towering beauty, the second rank is due to the *quercus tinctoria*. As useful natural productions, if both bore nutritious fruit, it would be very difficult to determine the relative preference claimed by these two ornaments of our forests; but the quantity and excellence of the fruit of the oak entitles it to a decided preference. The fruit of the oak has, indeed, been of no trifling aid to the frontier inhabitants of the United States, by feeding that animal upon whose flesh they have most generally subsisted during the early stages of their settlements.

Flax and hemp are, and will no doubt continue to occupy no small part of the attention of the people in the higher parts of the Missouri territory. The former is there, as in almost all other parts of the United States, cultivated in great part for home consumption, and of course is of more importance to the cultivator than articles denominated staples. Hemp will produce the double advantage of being at once an article of domestic use and a staple. As long as cotton is extensively cultivated in the southern part of the valley of the Mississippi, hemp will be profitably produced in the northern. Every twenty lbs. of the former will demand at least one of the latter, or the necessary quantity of hemp in bailing and cordage, is

about 5 per cent. of the weight of the cotton. A bale weighing three hundred, will have 235lbs. of cotton, and 45lbs. of baling and rope.

Mr. Niles calculates the quantity of cotton produced in the United States in 1816,* at 320,000 bales. This would demand 4,800,000lbs. of hemp, formed into duck and cordage.

Flax is a vegetable, that like cotton, will grow upon a great variety of land; moderately rich soil is most congenial to flax. It is an objection to hemp, that it demands first rate land.

The actual surface upon which hemp can be produced with profit, is very confined compared with flax; the former, is, however, upon land suitable to its growth, a more beneficial crop than the latter.

Hemp was more extensively cultivated some years past in the valley of the Mississippi than it is at present. The restoration of the relations of commerce in Europe, has restricted the cultivation of hemp in the United States to nearly the quantity necessary for home consumption.

Of vegetables that are congenial to the soil and climate, and not yet introduced into general culture in Louisiana, there is none would, perhaps, yield more beneficial product, than that species of sesamum, called oriental bhené.† This plant, whose growth is rapid, can be cultivated as extensively as cotton. The seed vessel is a many seeded capsule, containing round, oily seeds, which are used in various ways by the negroes, who cook it as a pulse. It has been long known to produce an oil, containing all the valuable qualities of olive oil, without the same liability of becoming rancid by age. The bhené is certainly one of the most productive vegetables that ever was cultivated by man. It is known in Louisiana, but much neglected. Being brought from the western coast of Africa from the banks of alluvial rivers, its growth is luxuriant on the fertile borders of the Mississippi and Teche: it will vegetate extremely well, also on high, dry, soil. It might, indeed, be made an universal object of culture from Tennessee to the gulf of Mexico.

The silk worm is one of the products of Europe and Asia, not yet introduced into the United States, but to which the climate is, in many places, no doubt congenial. Whether silk, as an object of human industry, can be produced in America, beneficially, is yet to ascertain; but some doubts may be indulged on the subject. Cotton will answer almost all the uses of silk, and also supply many other articles of clothing which silk will not. Cotton can no doubt be much

* Page 124, of this treatise, No. 18 Vol. XII. Nile's Register, Darby's Louisiana, 2d Ed. p. 320.

† Class didynamia, order angiospermia of Linnaeus.

Sesamum foliis ovato oblongis integris.—Miller.

Digitalis orientalis, sesamum dicta.—Tournefort.

"This plant," says Miller, in his Gardener's Dictionary, Art. Sesamum, "was introduced into Carolina by the African negroes, where it succeeds extremely well. The inhabitants of that country make an oil from the seed, which will keep many years, and not take any rancid smell or taste; but in two years becomes quite mild; so that when the warm taste of the seed which is in the oil when first drawn is worn off, they use it as a salled oil, and for all the purposes of sweet oil."

more easily produced than silk : the former is also now more familiar to our wants, the latter every day becoming less so.

There is one advantage attending the rearing the silk worm, arising from the mulberry tree, upon whose leaves that animal subsists, being capable of culture in many places, where, from the inequalities or other peculiarities, vegetables demanding the plough, could not be cultivated. This advantage will be felt, and perhaps extensively, in the lapse of ages, when land becomes dear from excess of population ; but in the present state of things, it may be doubted whether the silk worm would reward the attention paid to its nature, so profitably as would the same time and labour employed otherwise.

Setting aside the question of its expediency, the problem of the practicability of rearing silk worms in the United States, has been solved by actual experiment.

Miller, in his Gardener's Dictionary, under the article Mulberry, informs us that the white, or silk worm mulberry tree, produced fruit in the Chelsea garden in England. The tree would no doubt grow almost spontaneously over an immense surface in the United States. Mr. Miller observes ; "I have been assured by a gentleman of honour, who has made trial of both sorts of leaves, that the worm fed with the black sort produced much better silk than those of the white." This rendered it probable that the leaf of the white mulberry is not exclusively necessary to the silk worm.

The *Morus, foliis cordatis subtus villosis, amentis cylindricis* ; mulberry with heart-shaped leaves, which are hairy on their under side, and cylindrical catkins, is the mulberry tree so common in the United States. Whether the leaves of this latter species would be suitable to the silk worm, has not been, perhaps, ever yet subjected to adequate experiment, but Mr. Miller renders the affirmative probable. There is a striking analogy between the black mulberry of Europe, and the *morus foliis cordatis* of America.

This article might be indefinitely enlarged, but without conveying much real or useful information. Nothing more than general ideas of either the agricultural pursuits of the people of any country, or the capabilities of the soil, can be given by mere verbal description. A personal view of any country will do more, in informing the mind respecting its features, in three months, than the reading of numerous volumes can do in as many years.

CHAPTER V.

THE valleys of Ohio and Illinois comprise, perhaps, the finest region in the world. If soil, climate, vegetable, and mineral production, are added to its commercial advantages, this opinion cannot be considered extravagant. The surface comprised in these united valleys, is bounded by an outline of about 2400 miles, and contains 226,072 square miles, of which surface about 30,000 is in the valley of Illinois, and 196,000 in that of Ohio. The greatest length of this expanse is from the head waters of the Alleghany river to those of Bear creek, 720 miles; the greatest breadth from the head waters of Sagasonon, branch of Illinois, to the head of the streams that fall into the left side of the extreme south bend of Tennessee, and is 550 miles.

The extreme north part of this valley rises above 42° N. lat. in two places, namely, the head of Alleghany and that of the river Plein, a branch of the Illinois; it extends as far south as 34° N. lat. A due north and south line from the head of the river Plein to that of Mulberry creek, which falls into the south side of Tennessee river, in the Alabama territory, will extend through all the climates of the valleys of the Ohio and Illinois. This is, no doubt, the largest unbroken surface of productive soil in North America, if not on the globe.

The following statistical table, will exhibit the present political divisions of this country, with their extent and population.

<i>Territorial division.</i>	<i>Square miles.</i>	<i>Population.</i>
Part of the state of New-York	1,880	20,000
do state of Pennsylvania	16,500	102,391
do state of Virginia	26,768	100,000
do state of North Carolina	2,400	25,000
do state of Tennessee	36,000	340,000
do Alabama territory	6,583	10,000
do state of Mississippi	941	
All the state of Kentucky	39,000	580,000
Part of the state of Ohio	31,500	300,000
do Indiana	32,000	100,000
do Illinois territory	32,500	24,520
	226,072	1,601,911

Of this surface, 121,602 square miles lie S. E. and 104,470 N. W. of the river Ohio; of the population 1,115,000 are placed upon the former, and 486,911 upon the latter section.

Geological structure.—The valley of Ohio is of secondary formation in its entire extent, and abounds with substances belonging to countries so constituted. Much the greater part of the rock base is composed of mica slate, (micaceous schist,) or sandstone slate and

stratified limestone. The slate in various states of compactness, is and of lamina, varying in thickness almost to infinity: it forms the body of the hills in west Pennsylvania and west Virginia, and great part of Ohio. The limestone is found of several very distinct kinds, and also resting some places in strata, and others composed of loose, amorphous fragments, imbedded in earth: the former is by far most abundant.

In the present imperfect state of our knowledge respecting the various parts of the Ohio and Illinois valley, it is impossible to give in detail, the proportions of the fossil substances that compose the incumbent strata of the country. It may be assumed as a general fact, that the sand and limestone alternate in greater or less proportion. In some places one of those fossils predominates in quantity, in others they are found in nearly equal portions. Kentucky, much of Tennessee, and part of Ohio, rest upon immense masses of limestone. The rapids of Ohio rush over a body of this stone. The superstratum at the rapids of the Ohio is composed of shell limestone, in which are seen the remains of testaceous animals often entire. This stratum is about a foot in thickness, and is followed by common blue limestone.

Precipices, of more or less elevation, are found in many places along the Ohio river, formed by masses of limestone: the most remarkable of these precipices are upon the west bank near the mouth of the Tennessee river. The Kentucky river and several other streams in that state and Tennessee, flow between enormous walls of limestone. In this formation salt springs have been found to a considerable extent.

The micaceous schist formation may be said to prevail N. E. of that of limestone; and, as has already been observed, forms the base of west Pennsylvania, west Virginia, and the N. E. part of the state of Ohio. This latter formation is remarkable for the quantity and excellence of the bituminous coal which it contains; it always contains more or less limestone. Hills composed of micaceous schist formation, are remarkable for their rounded appearance, and the precipices for their shelf-like aspect. This latter effect arises from the more friable nature of some of the strata than others. Often the under stratum crumbles away, and leaves those above jutting out to some considerable distance. The banks of the Monongehela, Alleghany, and their confluent waters, afford innumerable examples, one of which is near the city of Pittsburg, in the bank of the former river.

Soils formed from the decomposition of these various rocks, are generally fertile, particularly from limestone.

In the aspect of the country under review, a considerable difference prevails between the sections S. E. and N. W. of the Ohio river. The former is much more broken than the latter, and possesses the only chain of mountains belonging to the whole surface.

It is remarkable, that the rivers of the United States are but very little influenced by the Alleghany mountains. A curve line traced between the sources of the waters, flowing into the Atlantic ocean, from those which enter the Ohio, would cross and recross, the minor chains of the Alleghany. A bird's eye view from New-York to Geor-

gia, would exhibit the rivers rushing through the gorges of the mountains in a great number of places.

In Potter county in Pennsylvania, is the extreme east waters of the Ohio, rising about 20 miles N. E. of the town of Condersport. Setting out from that place and advancing southwestward, the Chestnut ridge forms for one hundred miles the demarkation between the eastern and western streams: but the Kiskiminitas branch of the Alleghany, and the Youghiogeny, Cheat, and Tiger valley branches of Monongehela, all rise in the Alleghany, properly so called, and in their passage pierce the Chestnut ridge. From the sources of Tiger Valley river to the extreme eastern branches of the great Kenhaway, the dividing line between the intervening streams would run nearly south, crossing the mountains obliquely.

From the eastern sources of Kenhaway to those of the French Broad and Santee, the western streams rise in the extreme eastern ridges of the mountains, and flow nearly at right angles to the main chain.

By this natural arrangement it is at once perceptible, that the S. E. part of the Ohio valley becomes more and more mountainous, advancing S. W. from the north part of Pennsylvania to the N. W. extremity of Georgia. The Alleghany here, as every where else, consists of long and nearly collateral ridges, frequently cut through by the rivers. The intervening valleys are amongst the most agreeable, and, in many instances, most productive parts of the United States. Their materials, however, depend upon the rocks from which those materials are drawn. This is the true reason of the respective comparative fertility of the lands in the northwest and southeast side of the Alleghany mountains. The mere constituent matter of which mountains are composed, can only be interesting to general readers, from the influence that the decomposition of that matter must have upon the adjacent soil.

The shores of the Atlantic ocean, from Cape Sable to New-York, and the bottoms of the Ohio, are both alluvial; but the latter exceeds the former, in point of fertility, to a great extent. The Ohio has drawn its supplies of soil from secondary and transition, whilst the border of the Atlantic is from, in most parts, the ruins of primitive rocks.

The North or Hudson river, the Delaware, and the Susquehanah, are exceptions to the foregoing rule: these three rivers rise on the western secondary, cross the transition and primitive, and carry their spoils towards the Atlantic ocean, where they have formed immense borders of alluvion. The Hudson is the only river of the United States, through which the ocean tides are carried over the primitive and transition formations, to the border of the western secondary; this latter circumstance and its exemption from cataracts, shoals, or rapids, in its passage from the western secondary to the Atlantic ocean, are the only instances where any remarkable features distinguish the geological structure of the Hudson, from the Delaware and Susquehanah rivers. Under the name of this latter stream, are included all the confluent waters of the Chesapeake bay. The Potomac is, however, the most southern branch of the Susquehanah, whose sources are in the western secondary. James' river, though

rising near, does not actually reach the latter formation. Beyond James' river to the southward, the streams flowing into the Ohio, rise upon the border, or in the primitive, and cross the transition into the secondary, over which they flow into the main stream.

The reader will remark, from the foregoing, that the real dividing line between the waters of the Ohio and Mississippi rivers, and those of the Atlantic ocean, is actually uninfluenced by the mountains. It is a general, but a very unfounded opinion, that the Atlantic declivity* rises from the northwestern shore of that ocean to the summit of the Alleghany mountains, and that from that elevation the continent again declines towards the Mississippi. To clearly understand the physical conformation of any country, two distinct species of elevation must be noticed; first, what is properly called mountains, and secondly, hills formed by the gradual sinking of valleys from the abrasion of waters. In common language hills and mountains are mere relative terms, to signify more or less elevation; but, geologically, they are not only specifically, but generically distinct, at least they are so in the United States.

The mountains are protuberances rising out of and above the hills, but composed of very different materials, and arranged in a very different manner from the latter. Ascending from either the Atlantic ocean or Ohio river, the hills rise gradually towards the separation of the waters; the mountains on the contrary seem to preserve no regularity in their elevation, as it respects their local distance from the ocean, or rivers of the Ohio valley. Upon the annexed map of the United States, is etched, and coloured brown, the great outline of the Mississippi valley, including those of the Ohio and Illinois; and also the two latter spaces, distinguished from the great valley of which they form minor parts. This will present to the eye more clear definitions of the physiognomy of the United States, than can be given by verbal description.

The terms used in this article to distinguish the various rocks, are not in common use: some explanation is therefore necessary to excuse their insertion. There is nothing so necessary in the communication of information, as clear terms, having a definite and generally received idea attached to them. In a science so recent in regular classification as that of geology, the terms are new to most readers, but without them, no real useful knowledge on the subject can be conveyed through the medium of recorded facts. Primitive, transition, secondary, and alluvial, when once understood, enable the mind to seize with certainty the information intended to be given by the use of these terms.

One of the most profound geologists that the world has produced,† has observed, in a recent publication, that "it might have been as well, if when giving names to the different classes of rocks, all reference to the relative period of their origin, or formation, had been avoided; and in place of primitive, and secondary, some other names had been

* See Synopsis, page 7, of Geographical Introduction.

† William M. Clare—observations on the Geology of the United States, Philadelphia, 1817.

adopted, taken from the most prominent feature, or general property of the class of rocks intended to be designated, such as, perhaps, *crystalline* in place of *primitive*, and *deposition*, or *horizontal*, in place of *secondary*. But as those old names are in general use, and consecrated by time and long habit, it is more than probable that the present state of our knowledge does not authorize us to change them. The adoption of new names, on account of some newly discovered property in the substance, is the cause of much inconvenience already; and if adopted as a precedent in future, will create a confused accumulation of terms, calculated to retard the progress of the science. When we change the names given to defined substances by those who went before us, what right have we to suppose that posterity will respect our own nomenclature?"

The water-courses falling from the mountain valleys towards the Ohio, are mostly rapid, and many of them are encumbered with cataracts, none of which are of considerable height. The streams of Alleghany and Monongehela, pass over a continuation of rapids, without any that deserve the name of Falls. The Youghiogheny is, in one place, viz. the passage of Chestnut ridge, precipitated about seven feet. The great Kenhawa has one considerable and several lesser precipices passing across its bed, producing cataracts. The Cumberland and Tennessee, though rapid in their courses, are, nevertheless, navigable almost to their sources.

The rivers of Kentucky are but little impeded with rock in their beds, but flow through deep chasms, that have been worn out of the calcarious rocks through which those rivers flow.

To the N. W. of the river Ohio the whole region under review seems to rest upon a secondary base, covered occasionally by a recent alluvion. Limestone and sandstone slate, are the predominant rocks. Rounded pebbles are frequent; often in loose masses, though sometimes forming a crude breccia, or pudding stone.

Much of the surface of Illinois territory, states of Indiana and Ohio, are flat, and exhibit the usual features of alluvial countries. Extensive prairies, flat and sometimes swampy, spread over a large extent. The eastern part of the state of Ohio is hilly, the northern flat, and in its natural state is covered with woods: the northwestern prairie and the centre are diversified.

Two works of different characters and merit, have been written upon the valley of Ohio. Mr. Volney wrote from personal observation, but the fruit of his actual experience was injured by preconceived systems. Dr. Daniel Drake gave to his work the humble and circumscribed name of a picture of Cincinnati and the Miami country, though, under that modest title, it contains more really useful matter respecting the valley of Ohio, than all other works extant. There are two modes of pursuing knowledge; one, by first forming theories, and then searching for facts to establish those theories: the second mode is to collect facts, and from those facts to form systems. In their researches, Volney pursued the former, Drake the latter mode: these authors have respectively succeeded, according to the soundness of their materials and course of their operations.

Situated almost in the centre of the valleys of Ohio and Illinois,

Dr. Drake's inductions are more or less applicable to the entire surface, and have the invaluable merit of being drawn from actual experience, and arranged without reference to the support of previously formed hypothesis. As far as the constitution of the climate and the qualities of the soil are concerned, Dr. Drake's work will long remain a text book upon the regions adjacent to the Ohio.

In the detail of the several territorial divisions of the valleys of the Ohio and Illinois, their vegetable and mineral productions will be given as far as direct data can be found. In the review of the several states and territories, we will pursue a course from south to north, as in the preceding parts of this treatise. Following this method, Tennessee will first present itself. The annexed table exhibits the extent of Tennessee, with its population in 1810. An estimate is given of the number of people that state is now supposed to contain. This estimate is founded upon a supposition that the inhabitants increase five per cent. per annum, (expunging small fractions;) this data no doubt will give rather too small a result; it cannot be very far, however, from the real number.

TOPOGRAPHICAL TABLE.

EAST TENNESSEE.

<i>Counties.</i>	<i>Population.</i>	<i>Chief towns.</i>
Anderson	3,959	
Bledsoe	3,839	Marysville
Blount	3,259	Maryville
Campbell	2,668	
Carter	4,190	Elizabethtown
Claiborne	4,798	Tazewell
Cocke	5,154	Newport
Granger	6,397	Rutledge
Greene	9,713	Greenville
Hawkins	7,643	Rogersville
Jefferson	7,309	Dandridge
Knox	10,171	Knoxville
Rhea	2,504	Washington
Roane	5,571	Kingston
Sevier	4,595	Sevierville
Sullivan	6,847	Blountsville
Washington	7,740	Jonesborough
101,367		

WEST TENNESSEE.

<i>Counties.</i>	<i>Population.</i>	<i>Chief towns.</i>
Bedford	8,242	Shelbyville
Davidson	15,608	Nashville
Dickson	4,516	
Franklin	5,730	Winchester
Giles	4,546	Pulaski

<i>Counties.</i>	<i>Population.</i>	<i>Chief towns.</i>
Hickman	2,583	
Humphrey	1,511	
Jackson	5,401	Williamson
Lincoln	6,104	Fayetteville
Montgomery	8,021	Clarksville
Maury	10,359	Columbia
Overton	5,643	Monroe
Robertson	7,270	Springfield
Rutherford	10,285	Jefferson
Summer	13,792	Gallatin
Smith	11,649	Dixon's Springs
Stuart	4,262	
Wilson	11,952	Lebanon
Williamson	13,153	Franklin
White	4,028	Sparta
Warren	5,725	M'Minville
	160,360	
	101,367	

Total—261,727

Allowing an increase of five per cent. per annum, the present population of Tennessee, 1816, amounts to 340,000 persons.

Length, breadth, extent.—Tennessee is the longest state in the United States, being from northeast to southwest 470 miles: its breadth is one degree and a half of latitude, or 1,038 miles: the extent is within a small fraction of 40,000 square miles, equal to 25,600,000 American acres.

Natural features.—From its position on the globe, its extending from east to west, and from its narrow breadth, Tennessee might be supposed to exhibit but little variation of climate; but the position of the mountains in the state and in the adjacent states, has a great influence over the climate of Tennessee. There is no state in the United States, excepting Georgia, which admits the culture of so many valuable vegetables, as does this state.

Cumberland mountain intersects the state obliquely, and divides it into two unequal valleys, those of Cumberland and that of Tennessee. Those two rivers in their advance to the Ohio, approach, and enter the main stream, only eleven miles apart from each other.

The Tennessee is the longest and largest branch of Ohio: its extreme N. E. source rises in Wythe county in Virginia: its extreme S. E. branch rises in Georgia. The entire sources reach through two degrees of latitude, having various names; the French Broad, Nolachucky, and Holston, form by their junction the southeast branch: the Clinch the northwestern: their union at Kingston forms the Tennessee.

Below Kingston the Tennessee receives no river of any considerable length, to the Muscle Shoals, a distance of upwards of 200 miles. A short distance below the head of the Muscle Shoals, Elk river

comes in from the north: this stream is about 150 miles in length, heading in Cumberland mountain. Buffalo and Duck rivers rise in the same ridge with Elk, but flow west; and like the Tennessee and Cumberland, curve to the northward, unite and fall into Tennessee, nearly on latitude 35° N. Below the junction of Clinch and Holston, on the left side, and below the mouth of Duck river, the Tennessee receives no tributary waters sufficient to augment its stream in any sensible degree.

Cumberland river rises in Cumberland mountain, and interlocks with the head waters of Clinch and Kentucky rivers. This river rises in the southeast part of the state of Kentucky, through which it flows in a westerly direction upwards of 200 miles, enters Tennessee; and by a very winding course of one hundred and twenty miles in the latter state, reaches at Nashville near as far south as 35° N. lat. At Nashville the Cumberland river assumes a N. W. course, which it preserves 120 miles to its junction with the Ohio.

The two following tables will exhibit the relative length and stationary distances of the Tennessee and Cumberland rivers, from their sources to their junction with the Ohio.

No. 36.

Length and stationary distances of the Tennessee, by Holston.

	Miles.
From the sources of Holston to Abingdon	35
Tennessee line	10 45
Blountsville	20 65
Mouth of French Broad	95 160
Knoxville	4 164
Kingston, mouth of Clinch	60 224
Washington	30 254
Hiwassee river	10 264
Georgia line	50 314
Again enters Tennessee	10 524
Nickajack enters Alabama territory	10 334
Extreme south bend, $34^{\circ} 25'$ N. lat.	50 384
Head of Muscle Shoals	40 424
Mouth of Elk river	5 429
Lower end of Muscle Shoals	15 444
Mouth of Bear creek	30 474
Now forms the boundary between the state of Mississippi and Alabama territory, to the Tennessee south line	25 499
Mouth of Duck river	90 589
Tennessee north line	40 629
Entrance into the Ohio river	50 679

No. 37.

Length and stationary distances of the Cumberland river from its source, to its entrance into the Ohio.

	Miles.
From its source to the south line of Kentucky	200
Fort Blount	30 230

						Miles.
Nashville	-	-	-	-	-	90 320
Clarksville	-	-	-	-	-	30 350
Palmyra	-	-	-	-	-	10 360
Tennessee north line	-	-	-	-	-	30 390
Ohio river	-	-	-	-	-	50 440

The chain of Cumberland mountain extends between the Cumberland and Tennessee valleys, and produces two distinct climates in the state. That of Tennessee is more temperate than that of Cumberland. The difference is greater than would arise from the respective latitudes: cotton and tobacco are more productive, and less liable to destruction by frost in the former, than in the latter valley. No well digested statistical account of Tennessee has been published; nor have the minute shades of transition in its soil and climate been exhibited from actual and judicious observation. Only the general features of the country can be given.

Tennessee may be correctly viewed as the middle climate of the United States. Both from geographical position and local features, the temperature of its climate is a medium between the warmth of the south and the cold of the north. All the vegetable productions, from cotton to the cereal gramina, are produced. In some parts of the state the apple succeeds extremely well; a circumstance that in its constitution bears more analogy to the air of the northern, than to that of the southern states. On the borders of Kentucky and Virginia, the winters of Tennessee are often severe: the rivers are frequently frozen. Like all the middle and even southern states, the seasons are extremely variable. No winter passes away without severe frosts; and many are attended with heavy snow in all parts of the state.

The soil of Tennessee, like its climate, is very different in quality in the respective parts of the state. Three-fourths of the entire surface is mountainous or hilly. The valleys and river bottoms are remarkably fertile. The inequalities of the surface in respect to elevation, shelter, and exposure, are so infinite, that in different parts of the state, the same species of soil is suitable to very different vegetables.

The east section of Tennessee is occupied by what may be strictly called the *nucleus* of the Alleghany mountains. The ridges are here less elevated than in some other places; but they extend over a much wider surface than in any other part of the United States. The range of the mountains being here also inclined more to the west, produce a double effect upon the climate.

West Tennessee is more flat than the eastern section. The mountains, after their course to the west, gradually decline, and before reaching the Mississippi, disappear. The hills also become, in approaching the Ohio and Mississippi, more rounded, less elevated, and like the mountains, are gradually lost before reaching the extreme depression of the valley in which they are situated. From so many concurrent causes, the changes of temperature between the eastern and western extremities of Tennessee, are almost as great as would

be found, in many situations in North America, in an equal distance along a meridian line. A striking example of the correctness of the foregoing facts, are presented by the Mississippi and Tennessee states, when compared together. The relative geographical positions of the two states are directly opposite. The extreme length of the former, being north and south, that of the latter, east and west; yet the difference in climate between the extremes of the state of Mississippi is not greater, than exists also between the extremes of Tennessee.

A statistical and geographical work on Tennessee, drawn from carefully observed facts, and judiciously arranged, would be an accession of great value to the science of the United States.

Progressive geography,—history.—The state of Tennessee is an elongation of North Carolina, and originally made a part of that state; but like all other places northwest of the Alleghany mountains, its settlement by the white inhabitants is recent. About the commencement of the revolutionary war, a few hunters reached the sources of the Tennessee river, and without any countenance from government, commenced an establishment, which for many reasons increased and remained obscure and unnoticed by the governments of the contiguous states. These remote hunters experienced fierce opposition from the savages, which they repelled with bravery and success. The recent establishments in east Tennessee operated, during the revolutionary war, as a shield to the back countries of Georgia, South Carolina, North Carolina, and Virginia,* and contributed no little to facilitate the settlements of Kentucky.

From 1776, when the British agents, *Stuart* and *Cameron*, in revenge for their unshaken fidelity to their country, brought upon the Tennesseans the tomahawk of the Cherokees, until the memorable battle of New Orleans, the troops of Tennessee have been at their post, when their country demanded their services.

Tennessee was separated from North Carolina, and created a territory in 1790. In 1796 it became a state of the United States. In 1791 the population was 35,691; in 1795 the inhabitants were increased to 77,262. By the census of 1800 there were in Tennessee 103,602 persons. In the ten years that intervened between the two last enumerations of 1800, and that of 1810, the people of this state had accumulated to 261,727.

The greatest comparative increase was during the period between 1791 and 1795. A decrement of regular accumulation is perceptible in every subsequent period. This is the case with all the other new states and territories of the United States in the Ohio and Mississippi valley. Tennessee also presents another fact, universally overlooked in speculations on the recent settlements in the United States; that the density of the population is in direct ratio to the distance from the original source. This rule has very few exceptions in the United States, and none that does not arise from river navigation. The quality of soil seems to have very little direct influence in the extension of settlements. The difference in effect, between the silent but

* See page 62 of this treatise.

gradual flow of the people to the westward, and that of casual emigration, will be seen by reference to the geographical treatise annexed to this work.

Of cultivated vegetables, the most important produced in Tennessee is maize. In no part of the United States does that valuable plant grow in such perfection as in the rich bottoms of Cumberland, Tennessee, and their confluent streams. Much maize in the ear, and also ground into meal, is transported from these rivers to Natchez and New Orleans.

Wheat, rye, oats, barley, and buckwheat, are also raised in considerable quantities, both for consumption and exportation.

Hemp is amongst the staples of Tennessee, but is not at present so extensively cultivated as it was a few years past. Flax is reared for home use, but not in very large quantities.

Cotton is the staple commodity of greatest value both in quantity and aggregate value, that is exported from this state. The thread of the cotton of Tennessee is, perhaps, not so long as that growing in more southern latitudes, but is otherwise excellent.

Of mineral productions found in Tennessee, iron and salt are the most important. Several iron works are, and have been many years in operation, both in east and west Tennessee. Castings and iron are made both for domestic use and exportation. Several salt springs are found, but not in general use: the state is generally supplied with that very necessary article from Kentucky and Virginia.

Saltpetre, alum, copperas, and lead, are also discovered. A considerable quantity of the former is now taken from various caves and manufactured into gunpowder, or otherwise used for home consumption, and also for exportation.

Coal is said to be discovered in great quantities; it is the bituminous coal of secondary formation, and disposed in horizontal strata.

Tennessee may be with propriety considered, in respect to fruits, as the most favourable situation in the United States. There are, indeed, very few fruits cultivated in the valley of the Mississippi and Ohio, but what are concentrated in this state. Apples, pears, peaches, and plums, are reared in great variety, and of good quality. The two kinds of potato grow in abundance.

Beef, butter, bacon, pork, lard, tallow, leather, and many other articles, are exported to Natchez and New Orleans.

The timber trees are plentiful and very large, consisting of many species of oak; many species of hickory, black and white walnut, beech, linden, sycamore, ash; several species of maple, poplar, (*Liriodendron tulipifera*.) black locust, honey locust; various kinds of elm, mulberry, pine, cedar, wild cherry, and sassafras. The underbrush consists of dogwood, spicewood, papaw, crab apple, hazle nut; many kinds of grape vines, and smilax, large cane, and many other plants and herbs of medicinal virtue, or otherwise useful.

Towns,—colleges,—schools.—*Nashville*, on the south side of Cumberland river, in 36° 4' N. lat. and 10° W. lon. from Washington, is the principal town in West Tennessee, and the largest in the state. The number of inhabitants in this town is uncertain, but no doubt exceeds three thousand. Some fine public and private buildings are

erected. The town is rapidly improving, and is now a place of great commercial wealth.

Knoxville, the chief town of East Tennessee, stands upon the north side of Holston river, $35^{\circ} 55'$ N. lat. $6^{\circ} 58'$ W. lon. from Washington city. There is not much difference in the population of Knoxville and Nashville. The latter is, in many respects, one of the most agreeable places of residence in the United States. The adjacent country is variegated and romantic. The climate is a due medium between the extremes of the northern winters and southern summers. Occupying an interesting situation almost upon the direct route from New Orleans and Natchez to the middle states, Knoxville will become a place of great consequence, when good roads are made through the state of Mississippi and Alabama territory.

There are many other towns in the state of Tennessee, but none that merit particular notice.

There are several colleges, academies, and schools in Tennessee. Cumberland college, in Nashville, is the most extensive literary establishment in the state. There are one or two colleges in East Tennessee. By law there ought to be one academy in each county: how many of the latter are in operation, we are unable to state with certainty. Education is not neglected in the state, though not pursued with the regularity, or carried so high as in the northern states. Professional men, particularly physicians, are obliged, in order to complete their studies, to attend lectures in either Baltimore, Philadelphia, New-York, or Boston. No establishment in the western states is so imperiously necessary, as a college of physicians and surgeons. There is provision made in the arrangement of the Transylvanian university in Lexington, Kentucky, for the completion of medical education; and it is much to be desired that this part of the plan was carried into complete effect. So much is now become necessary by the advancement of chemistry and botany in order to complete medical studies, that much time and expense are indispensable in the collection of libraries, and in the formation of the various professorships.

In every point of view, Tennessee is a very respectable and rapidly improving state. The Mississippi is its great commercial outlet. Two or more canals have been projected, to unite the waters of Tennessee with those of Mobile river. How far these canals are practicable, or what will be their probable expense, is unknown. One very serious objection to their utility, arises from the great length of time that the higher waters of Tombigbee and Coosa rivers are rendered innavigable, almost every year by the summer and autumn beats. The route to market by the Mississippi is circuitous and tedious; but it is always open, and subject to no other particular inconvenience than what arises from the length.

The following tables exhibits the relative distances from Nashville and Knoxville, to the principal towns in the United States.

EMIGRANT'S GUIDE.

199

No. 38.

From Nashville to Washington city by Knoxville.

	<i>Miles.</i>
Jefferson	25
M'Minville	40 65
Madison	34 99
Washington	30 120
Kingston, junction of Clinch and Holston	30 150

For the distance and stations between Knoxville and Washington city, see No. 26, page 153, and No. 31.

For the stationary distances from Nashville to New Orleans, see No. 33, page 160.

No. 39.

From Nashville to Pittsburg, by Lexington in Kentucky.

	<i>Miles.</i>
Manstrer's	22
Springfield	12 34
North boundary of Tennessee	15 49
Russelville	15 64
Bowling green	27 91
Glasgow	33 124
Greensburg	34 158
Stanford	75 233
Nicholasville	27 260
Lexington	15 275
Washington, Pennsylvania. (See No. 30.)	320 595
Cannonsburg	7 608
PITTSBURG	18 620

No. 40.

From Nashville to Charleston in South Carolina, by Athens, Augusta, and Savannah in Georgia.

	<i>Miles.</i>
Shelbyville	45
Winchester	31 76
Ross, southeast side of Tennessee river	33 109
Vans's Cherokee nation	50 159
Etowah river	54 213
Chatahoochy river	23 236
Clarksboro on Oconee river	32 268
ATHENS	20 288
Lexington	20 308
Washington	30 338
Ray's mills, on a branch of Savannah river	15 363
Columbia	13 366
AUGUSTA	20 386
Waynesboro	34 420
Jacksonsboro	23 443

	<i>Miles.</i>
Ebenezer	42
SAVANNAH	485
Coosahatchy	26
Garden	511
Jacksonsboro	33
CHARLESTON	544
	12
	556
	24
	580
	33
	613

No. 41.

From Nashville to Columbus in the state of Ohio, by Lexington and Cincinnati.

	<i>Miles.</i>
Lexington. (See No. 39.)	275
Falmouth	40
Cincinnati	315
Hamilton	40
Dayton	355
Springfield	25
Franklington	380
Columbus	35
	415
	28
	415
	36
	479
	1
	480

No. 42.

From Nashville to Charleston, by Knoxville and Columbia.

	<i>Miles.</i>
Knoxville. (See No. 38.)	192
Dandridge	30
Newport	222
Warm Spring	21
Line between North and South Carolina	243
Greenville	25
Reedy river	268
Lauren's	30
Belfast	298
Newbury	30
Saluda river	328
Granby	26
COLUMBIA	354
Smithville	15
Nelson's ferry	369
Monk's corner	20
Elm's	389
Charleston	13
	402
	30
	432
	21
	453
	3
	458
	37
	493
	34
	527
	19
	546
	20
	566
	14
	580

No. 43.

From Nashville to Washington by Raleigh, in North Carolina and Richmond in Virginia.

	<i>Miles.</i>
Knoxville. (See No. 38 and 42.)	192
Dandridge	30
Cheek's	222
	22
	244

EMIGRANT'S GUIDE.

201

	Miles.
Warrenton	12256
Greenville	17273
Jonesboro	25298
Elizabethtown	10314
Ash	70384
Wilke's	34418
Rockford	38456
Huntsville	20476
Bethania	15491
Salem	9500
New Garden	26526
Martinsville	10536
Allemanee	22558
Hillsboro	14572
Chapel hill	14586
RALEIGH	24610
Louisburg	32642
Warrenton	23665
Meherin river	20895
Notaway river	20715
Petersburg	33748
RICHMOND	24772
Hanover, C. H.	20792
White Chimneys	10802
Bowling green	14816
Vileboro	8824
Fredericksburg	15839
Falmouth	10840
Stafford	9858
Aquia	4862
Dumfries	10872
Ocoquan	10882
Pohike church	5887
Alexandria	11878
Washington	7906

Kentucky, like Tennessee, extends in length from east to west. The 37th degree of north latitude nearly corresponds to the greatest length of Kentucky, passing through the state from near the mouth of Ohio to the sources of Cumberland and Great Sandy rivers, a distance of seven degrees of longitude, or three hundred and eighty-six miles: the greatest width is due south from the mouth of great Miami river to the north boundary of Tennessee, equal to a little more than two and a half degrees of latitude, or one hundred and eighty miles. Kentucky extends over 42,053 square miles, equal to 26,913,920 American acres.

The following statistical table presents a view of the divisions and population of this state, as they stood in 1810.

TOPOGRAPHICAL TABLE.

KENTUCKY.

County.	Population.	Chief towns and population.
Adair	6,011	Columbia 175
Barren	11,186	Glasgow 244
Bath		
Boone	3,608	
Bracken	3,451	Augusta 255
Brackenridge	3,430	
Bourbon	18,009	Paris 638
Buther	2,181	
Bullet	4,311	
Clarke	11,519	Winchester 538
Casey	3,285	Liberty 33
Campbell	3,060	Newport 413
Christian	11,020	Hopkinsville 191
Cumberland	6,191	Burkesville 106
Clay	2,398	
Caldwell	4,268	
Estill	2,082	
Fayette	21,370	Lexington 426
Franklin	8,013	Frankfort 1009
Fleming	8,947	
Floyd	3,484	Prestonville 32
Gallatin	3,307	Port William 120
Greenup	2,369	
Green	6,735	Greensburg 132
Grayson	2,301	
Garrard	9,186	Lancaster 260
Henry	9,777	Newcastle 125
Harrison	7,752	Cynthiana 369
Henderson	4,703	Henderson 150
Harden	7,531	Elizabeth-town 181
Hopkin's	2,964	Madisonville 27
Jessamine	8,377	Nicholasville 158
Jefferson	13,399	Louisville 1367
Knox	5,875	Barbourville 55
Lexington		
Livingston	3,674	Smithland 99
Lewis	2,357	
Lincoln	6,676	
Logan	12,123	Russellville 532
Macon	12,458	Washington 616
Mercer	12,630	Danville 432
Madison	16,540	Richmond 366
Muhlenburgh	4,181	Greenville 75
Montgomery	12,675	Mountsterling 425
Nicholas	4,898	
Nelson	14,078	Beard's town 821

<i>Counties.</i>	<i>Population.</i>	<i>Chief towns and population.</i>
Ohio	3,682	Hartford 110
Pulaski	6,897	
Pendleton	3,061	Falmouth 121
Rock Castle	1,731	
Scott	12,419	Georgetown 529
Shelby	14,837	Shelbyville 484
Union		
Wayne	5,430	Monticello 37
Washington	13,248	Springfield 249
Warren	11,937	Bowling green 154
Woodford	9,659	Versailles 488.
	406,511	

Progressive geography,--population.—In 1760 the first whites of whom we have a well authenticated account passed into Kentucky. Daniel Boone, in 1770, traversed the country, and in 1775 the first attempt was made at a settlement by white families. If any part of the inhabited earth could be said to have been peopled in tears and blood, that was, emphatically, Kentucky. Invited by the excellence of the soil and beauty of the country, the whites persisted in removing into it: stimulated by dread of encroachment, and determined on preserving their best hunting ground, the savages defended their residence with desperation. The discipline and numbers of the former prevailed. After many years of war, the savages abandoned the contest, and yielding Kentucky, prepared the way for much more extensive conquests.

Eleven years after the first effectual settlement, Kentucky was separated from Virginia by the following limits: the state of Tennessee south, the Mississippi river west, Ohio river northwest, Big Sandy river east, and Cumberland mountain southeast; having the state of Tennessee south, Missouri territory west, Illinois territory and the state of Indiana northwest, the state of Ohio north, and Virginia east and southeast.

In 1790 Kentucky contained 73,677 persons. In 1800 220,959, and in 1810 had increased to 406,511. The same observation made respecting the progressive accumulation of the people of Tennessee, may be repeated as regards that of Kentucky. The increase was much more comparatively greater between 1790 and 1800, than in the ten years antecedent to the last census.

Kentucky became a state of the United States. June 1792, when its population did not either much exceed or fall short of 100,000 inhabitants.

Allowing a similar increment as given to Tennessee, Kentucky now contains about 580,000 people. The rapid increase to wealth and consequence of this state, from that of a howling wilderness, has, perhaps, no parallel in the history of the human species. If Tennessee is excepted, no other part of the United States was peopled under such accumulated difficulties as Kentucky.

Natural features,--productions, natural and artificial.—Geological-

ly, the entire surface of Kentucky reposes upon a bed of secondary limestone. The soil of very different depths, but almost every where fertile. The southeastern part is mountainous, the centre hilly, and some parts near the Ohio level. The rivers have, generally, worn very deep channels in the calcareous rocks upon which they flow. The country is not very well supplied with either well or spring water. Mill streams are also mostly precarious.

The rivers of Kentucky are, Ohio, Mississippi, Tennessee, Cumberland, Green, Rolling, Kentucky, Licking, and Big Sandy river.

The Ohio is the principal stream of the state of Kentucky, and the ultimate channel of its commerce, flowing along the state from the mouth of Big Sandy to the Mississippi, about 640 miles, following the bends of the stream.

The Mississippi is the western boundary of the state from the mouth of Ohio to the north boundary of Tennessee, fifty-three miles.

Tennessee and Cumberland pass in the lower part of their course about fifty-eight miles each in the state of Kentucky, and add essentially to the commercial facilities of the state. The latter is in reality more particularly a stream of Kentucky than of Tennessee; the former having within its territory both the sources and the mouth of that river.

Green river is a stream of considerable extent, rising near the centre of the state, and running to the west 120 miles, receives a large branch from the south; assumes a northwest course of 100 miles; falls into the Ohio about thirty miles below the Yellow Bank.

Rolling is a small and unimportant stream, rising near Danville, and pursuing a western course of 60 or 70 miles, turns northwest and north; falls into the Ohio thirty miles below Louisville.

Kentucky river, from which the state derives its name, rises near the southeast angle of the state: its general course is nearly northwest; about 200 miles in length; falls into the Ohio at Port William. This river traverses the most fertile, best cultivated, and peopled part of Kentucky.

Licking river rises between the sources of the Kentucky and Great Sandy: its course is nearly parallel to and about equal length with the former; joins the Ohio at the town of Newport opposite Cincinnati. Licking waters a fine, rich, well inhabited country.

Great, or Big Sandy river, rises in the Cumberland mountains: its sources interlock with those of Cumberland, Clinch, Kenhawa, Kentucky, and Licking rivers. This stream forms the east boundary of Kentucky: its course is a very little west of north; about 100 miles in length.

Cumberland mountain forms the southeast boundary of the state; but the mountain here turns almost west, and, together with the continuation of the chain, contributes to influence very seriously the climate of Kentucky. There is, indeed, a remarkable similarity between Tennessee and Kentucky: in both, the climate differs more in an equal distance east and west than north and south. In the western part of Kentucky some cotton is made, but with difficulty. A circumstance that proves that the climate of Kentucky approximates

more to the northern than southern atmosphere, is the successful manufacture of maple sugar.

Like all other parts of the valley of Ohio, the soil and air of Kentucky has been represented in the most inflated strains of admiration. It is, indeed, a fine country, but not differing in any essential respect from the adjacent regions.

Wheat, rye, maize, oats, barley, and buckwheat, are cultivated. Maize is, however, the principal grain reared for home consumption. Hemp and flax succeed in many parts extremely well. The Irish potato grows abundantly, as does a great variety of garden vegetables.

Apples, pears, peaches, cherries, and plums, are the fruits most commonly cultivated.

From the calcareous composition of the soil, it is said, by residents, that meadow grasses do not grow to advantage. How far this could be remedied is a fact, by the culture of luzerne, lupinella, clover, or other vegetables suitable to form hay, experience only can determine.

Domestic animals are large and beautiful, particularly the horse; some of the largest, fleetest, and finest individuals of that noble quadruped yet produced in the United States, has come from Kentucky.

Salt and iron are amongst the minerals of this state. The most extensive works for the manufacture of the former yet established west of the Alleghany mountains, are on the waters of Kentucky, from whence Tennessee, Ohio, and Indiana, have in a great measure been supplied, besides a sufficiency for home use. Several iron works are also in operation, where castings are made: bar iron is mostly imported from Pennsylvania.

Kentucky has from its position become a manufacturing state. In 1810, by a return made to the office of the secretary of state, the amount of manufactured articles exceeded five million of dollars. Of this aggregate the looms produced 2,657,081 dollars; the salt works 325,870 dollars; rope walks 393,400 dollars; maple sugar 308,932 dollars: the balance was made up by the tanneries, distilleries, paper mills, hemp, &c.

Hemp, wheat, and tobacco, are the principal staples. Each of these articles preponderate, following the demand. Manufacturing pursuits must, however, increase. The distance to the Atlantic cities, and the expense of carriage, secures a very high premium for the production of all bulky articles.

As the cultivation of cotton advances on the Mississippi and neighbouring streams, the demand for cordage and bale cloth must increase also. Steam-boat navigation will aid the commercial and manufacturing interest of Kentucky, to an extent beyond our means to calculate.

A project of a canal to pass the rapids of the Ohio at Louisville, has been long in agitation, and must eventually, and at no very distant time, be completed. The fall is 22½ feet in a little more than two miles. It is much to be desired that a good canal was formed in this place, as it would remove the only existing serious impediment

to navigation from the sources of Aleghany and Monongahela, to the mouth of the Mississippi.

The timber trees of Kentucky do not differ very much from those of Tennessee. Pine and cedar is less frequent in the former than in the latter state. Marble abounds of excellent quality. The whole country may be said to repose on limestone.

Towns,—colleges,—schools.—Lexington, in Fayette county, is the largest and most wealthy town in Kentucky; it stands at $30^{\circ} 10' N.$ lat. $7^{\circ} 10' W.$ long. from Washington city, and nearly due north from Knoxville in Tennessee. It has been contended by some, that the plain upon which Lexington stands, is not excelled for fertility and beauty in the world; without doubt it is one of the most productive spots in America. The settlements were commenced here in 1779. The town now contains between five and six thousand people.

Improvements in building has kept pace, if not exceeded the increase of population, and Lexington, where stood a wilderness less than forty years past, now assumes the appearance of a thriving commercial city, and its inhabitants exhibit the polish and intelligence arising from wealth and leisure.

A few years after the first settlements were formed, the legislature of Virginia incorporated for Kentucky, and located in Lexington a seminary of education under the title of "The Transylvania University." This infant establishment made, during the first years of its existence, but little progress. Involved in Indian wars, or engaged in forming new villages and farms, the people had little leisure to pursue literary objects; but like every thing else concerning this state, as soon as relieved from the pressure of savage warfare, the science of the people augmented with astonishing rapidity. Men of high attainments in every branch of human knowledge removed into the state, and brought with them their information and liberal views. In 1798 the Transylvania University went into operation under the guidance of twenty-one trustees, chosen on principles certainly novel: no person belonging to any of the faculties are admitted. Though not pursued with very general ardour through the state, yet education made rapid advances in some places, particularly Lexington, inasmuch as to obtain for that town the title of the Athens of the western states.

Besides the buildings necessary to public worship, education, and the courts of law, there are many very flourishing manufactories in and near Lexington. In a word, a visit to this place cannot fail to give the warmest pleasure to a benevolent mind. No where in America has the almost instantaneous change, from an uncultivated waste to the elegancies of civilization, been so striking.

FRANKFORT, on Kentucky river, at $38^{\circ} 14' N.$ lat. $7^{\circ} 40' W.$ lon. from Washington city, is now the seat of government for the state, but is not remarkable for any considerable difference in population or improvement from Bard's Town, Paris, Washington, or Danville, all of which are flourishing and pleasant towns, containing from 800 to 1200 inhabitants.

Louisville, on the banks of Ohio, at the upper extremity of the rapids in that river, is, certainly, in point of wealth and consequence, the second town in the state. The Rapids of Ohio is at $38^{\circ} 25' N.$ lat. $8^{\circ} 40' W.$ lon. from Washington city.

Louisville occupies a high bank below the mouth of Bear-grass creek, extending parallel to the river. There is a fine prospect from the front street up and down the stream, and of the opposite coast of the state of Indiana.

A very extensive and active commerce is now carried on between this place and Natchez, New Orleans, and St. Louis. If the proposed canal is made to pass the rapids, it will augment the improvement of Louisville to a great extent by establishing manufactures, by the almost infinite command of water power.

At the lower part of the rapids a town has arisen by the name of Shipping Port. Several ships, and vessels of all kinds suitable to the Ohio or Mississippi, have been built at the latter place. The facility of rafting timber down the Ohio, and of cutting it into plank by the aid of water from a canal 22 feet fall, will, when the latter improvement is completed, enable vessels to be built to any possible extent that an increasing population and commerce could demand, and upon the most reasonable terms. There would be no known spot on the globe where the materials could be more easily collected, or more expeditiously rendered fit for use, not only for the construction of ships, but dwelling-houses also.

Kentucky has passed the era of rapid increase from emigration. The best lands are sold and have become expensive. The state will continue to possess the advantage of its local position; and when the population of the western preponderate over that of the eastern and northern states, the seat of general government will probably be removed into this central state. The period, however, when the weight of population will have changed its relative situation, is more remote than most people are in the habit of calculating. It will be seen by a review of the several states and territories, given in this treatise, that as in any new settlement, the best lands and those near navigable water-courses are transferred to private individuals, the flood of migration must begin to subside. From this sole cause arises the less comparative increase of inhabitants, in periods distant from the original settlement. Tennessee, Kentucky, and indeed all establishments on the valley of Ohio, are examples.

The roads in all the states and territories north of Tennessee, in the valley of Ohio, are so blended, that a separate list would be unnecessary and perplexing; therefore the residue of the roads and main routes will be given in connexion, at the end of this treatise.

Illinois Territory takes its name from the river of that name, whose valley forms rather more than one-half the surface of the territory, passing through it obliquely from northeast to southwest. The length of Illinois is from north to south, from the junction of the Ohio and Mississippi, almost on $37^{\circ} N.$ lat. to the northern boundary of the territory $41^{\circ} 43' N.$ lat. or 326 miles, its greatest breadth is about the fortieth degree of north latitude. This territory is bounded on the southwest, west, and northwest, by the Mississippi river; on the

north by the $41^{\circ} 45'$ N. lat.; east by the state of Ohio, and south-east and south by the Ousabache and Ohio rivers; extending over 51,000 square miles, equal to 32,640,000 American acres.

The following statistical table is defective, as but little of the Illinois territory was settled with white inhabitants in 1810.

TOPOGRAPHICAL TABLE.

Counties.	Population.	Towns.
Randolph,	7,275	Kaskaskia.
St. Clair,	5,007	
Gallatin,		
Edward,		
Johnson,		
Madison,		

12,282

Progressive Geography.—History.—It was through the Illinois river that the first effectual discovery of the Mississippi river was made by the French. In 1674, two traders, Joliet and Morquette, reached the Mississippi through lake Michigan, Fox, and Ouisconsin rivers. In 1683, from the report of Joliet and Morquette, the Chevalier Tonty, M. de la Sale, and Father Louis Hennepin, undertook an expedition of discovery, and through lake Michigan and Illinois reached the Mississippi. The Wabache was soon after explored, and small establishments made at Vincennes, Cahokia, and Kaskaskia. The greatest part of the country remained in the hands of the savages until within a few years past.

The original white settlers were French from Canada, but these people, few in number, and detached from each other, lived by hunting and Indian traffic, rather than by agriculture. In their manner of life they conformed in great measure to the more numerous savages by whom they were environed.

Whilst Indians remained a territory, Illinois formed a western part thereof; but when the former became a state, the latter was created a separate territorial government, divided into three United States' court districts, in which political form it now continues.

The population is increasing, and must now (1817) considerably exceed 20,000 people.

Rivers.—The rivers of the Illinois territory, are the Mississippi, Illinois, Kaskaskia, Ohio, and Wabache.

The Mississippi river forms the boundary of Illinois, following the winding of the stream for upwards of five hundred miles. So much has already been given on this great stream, in the preceding parts of this work, as to much abridge what need be added in this place.

Above the mouth of Missouri, the water of the Mississippi river is clear, and very similar to that of the Ohio. The banks continue for some distance low, and in many places liable to overflow. The soil is rich; extensive prairies often reach and extend along the stream. About $39^{\circ} 15'$ N. lat. hills are first found upon the river; above this place the country gradually rises into eminences of more or less elevation, giving a varied appearance to the scenery.

The peninsula, between the Mississippi and Illinois rivers, has been surveyed as soldiers' bounty lands. The surface actually surveyed, amounts to an area about equal to 240 regular townships of 36 sections each; equal to 8640 square miles of 640 American acres each, or an aggregate of 5,530,000 acres nearly. As the act of congress of May 6th, 1812, granting those lands as bounty to the soldiers enlisted in the army of the United States, expressly provides that the several portions to be granted under that act, shall be fit for cultivation, a larger surface than barely sufficient to satisfy the claims was necessarily surveyed. Three millions five hundred thousand acres are appropriated by congress, and have, it appears, been selected by the surveyor general, William Rector, Esq. for that express purpose.

This tract lies between $38^{\circ} 47'$ and $41^{\circ} 47'$ N. lat., and between 12° and 14° W. lon. from Washington city. A plan of the townships and ranges, including the water-courses, has been published at the seat of the general government, by Mr. John Gardiner. It is much to be regretted, that this map had not contained some detail of the diversity in soil and surface, as well as mere outline. As it is, however, it affords much valuable information respecting the local features of the country, and of the relative position of the different townships.

Fronting page 6, of this treatise, is placed a plan of the manner of surveying public lands. With that plan as a key, any particular section may be found upon any general map of public lands.

Regarding topographical position, the peninsula between the Mississippi and Illinois, presents many advantages as a settlement. Under the article, Missouri territory, page 137 of this treatise, is given much of what could be here repeated respecting the climate of the region near the junction of the Mississippi and Illinois. Towards the north part of the soldiers' lands, or about 41° N. lat., a very sensible change of climate is perceived. The parallel of 41° runs through the south part of New-York, the north part of New-Jersey, divides Pennsylvania into nearly two equal parts, then runs through the northern parts of the states of Ohio and Indiana, and the Illinois territory. Contrary to the commonly received opinion on that subject, data are embodied in this treatise, that tend to establish the fact, that more cold is experienced on the same latitude in the Mississippi valley, than on the Atlantic coast, east of the Alleghany mountains. If so, the climate of the lands we have been reviewing, will be found to bear great resemblance to that of the northern extremity of Ohio and Indiana. We are strongly inclined to believe that this will be found to be the case when the country becomes settled.

The Illinois river, bounds the tract on the east and southeast. Above its junction with the Mississippi, the Illinois river flows from the north about 80 miles, with depth of water for boats of considerable draught at all seasons. The river is then found flowing from the southeast sixty miles; it then in T. 7. N. R. VII. east, inclines N. N. E. which is its general course to the northeast extremity of the tract, a distance of about sixty miles, giving an entire range, from where this stream comes in contact with the region we have been describing, to its discharge into the Mississippi, of two hundred miles.

The Illinois is, in all its length, a gentle current, without falls or even remarkable shoals. Much of its bank is liable to annual inundation, and of course rendered unfit for culture. It has been already remarked, that the general surface of the country is prairie, some part of which is very fine land, though too much does not deserve so favourable a character.

Two streams of some consequence flow into the Illinois from the northwest.

Spoon River, has its discharge in T. 4. N. R. IV. E. Rising near the northeast part of the soldiers' tract, Spoon river has a course of upwards of one hundred miles in length, following its various inflections; its general course is nearly parallel to the Illinois. How far Spoon river is navigable we are unable to say, but judging from analogy, would suppose above one half its entire length.

Crooked Creek, falls into Illinois in T. 1. S. R. I. E. This stream is marked on Mr. Gardiner's map as a creek, but from its length and numerous branches, would deserve the title of river; the distance through which it flows exceeding eighty miles.

Henderson River, enters the Mississippi in T. 10. N. R. VI. W. and rises in the same ridge with the head streams of Spoon river. How far the former river is navigable we are unacquainted.

There are various other small rivers and creeks falling into the Mississippi and Illinois, of less consequence than those we have noticed. On Gardiner's map, there is marked a singular outlet of the Mississippi, leaving that river in T. 3. S. R. VIII. W. and flowing parallel to the parent stream forty miles, again falls into it in T. 8. S. R. IV. W. Several creeks of considerable length enter this outlet from the north.

An extensive inundated tract is laid down where 40° N. lat. intersects the Mississippi. This tract is about twenty-five miles in extent north and south. From the data afforded by Gardiner's map, the country near the margin of the rivers bear a strong resemblance to the regions adjacent to the Mississippi below the mouth of Ohio. The bends of the rivers washing bluffs, but generally ranging over inundated lands. Retiring from the streams into the interior, the surface becomes gradually more elevated and diversified in its general aspect.

From the similarity of climate, the natural and artificial productions must, in a great degree, resemble those of the adjacent regions in the same latitudes. Wheat, rye, oats, maize, and other cerealia, can be produced in great abundance. Meadow grass of all kinds must flourish. Fruits, such as apples, pears, peaches, plums, cherries, and many others, will no doubt be plentifully reared.

Considering the facility of navigation, by the two great rivers that encircle it on three sides, and the numerous other streams that flow from its central parts, the bounty land offers every necessary facility to navigation, especially by the route of the Mississippi and Ohio. But little labour would be demanded, however, to open a water communication through the Illinois to lake Michigan.

The intervening country is low, and mostly composed of alluvial materials, presenting impediments to canal navigation that might be

easily removed. A glance upon the map of the United States, attending this treatise, will enable the reader to perceive the favourable position of this spot, wisely selected by the general government to reward the gallantry of the soldiers of our late war.

Illinois river, has never been accurately surveyed above the bounty land, but it is known, however, to rise in the northeast part of the state of Indiana, which state it traverses in a western direction one hundred and thirty miles, enters the Illinois territory, and continuing west, one hundred and twenty miles, must have a curve to the southwest, not far from the northeast corner of the bounty land. In all previous maps of Illinois river, that we have seen, its general course is drawn nearly southwest by west, through, from its source to its mouth. That course is not very incorrect; yet, when drawn in that manner, a very false idea is given of the actual range of the stream. Indeed, when attentively examined, a very remarkable coincidence appears in the courses of the Illinois, Wabash, and Ohio rivers. This is nevertheless a theory in geology, coming more correctly under consideration in the geographical part of this treatise.

The courses and length of the Illinois river, from its contact with the bounty lands to its mouth, has been noticed, the entire length being 390 miles.

Kaskaskia river, rises in the prairies between the Illinois and Wabash, interlocking with the head streams of the Little Water branch of the latter. The entire length of the Kaskaskia is about 150 miles, its course southwest by south, nearly. This river is navigable, at high water, to a considerable distance above its junction with the Mississippi, a few miles below the town of Kaskaskia. The quality of the lands, the natural and artificial productions, are nearly the same found upon the Illinois.

Upon the Kaskaskia are some of the most extensive settlements yet made in the Illinois territory; the town bearing the same name with the river is now the seat of government for the territory, a rank it must soon lose, from its position and the increasing settlements to the northwest, upon the Illinois river.

Vaseux river, is a stream of eighty miles in length, rising between the waters of the Kaskaskia and Little Water rivers, and flowing nearly parallel to the former, falls into the Mississippi some distance above Cape Girardeau. But few settlements, and none of any consequence, meriting particular notice, have yet been formed upon the waters of the Vaseux.

Ohio river, washes the southeast part of the Illinois territory, from the mouth of the Wabash to the junction of the Ohio and Mississippi, a distance of 136 miles. The banks of the Ohio below that of the Wabash, assume a general resemblance to those of the Mississippi below the mouth of Missouri. The concave bank is mostly composed of craggy limestone, the convex bank low, and subject to annual inundation. These features continue as far down as the Great Cave, below which both banks become low, and in every essential quality are similar to those of the Mississippi below the mouth of Ohio. The settlements are confined to the alluvial border on the river. The swamps commence from a quarter, to half a mile from the margin of

the stream. The soil, like most alluvial land, is extremely fertile, and valuable where elevated sufficiently for the purposes of agriculture. The timber gigantic and extremely abundant. The following list contains the most remarkable timber trees found on this tract, and will answer generally for all the adjacent country.

<i>Quercus tinctoria</i> ,	Black oak,
<i>Quercus alba</i> ,	White oak,
<i>Quercus rubra</i> ,	Red oak,
<i>Quercus phelos</i> ,	Willow leafed oak,
<i>Liriodendron tulipifera</i> ,	Poplar,
<i>Laurus sassafras</i> ,	Sassafras,
<i>Juglans amara</i> ,	Bitternut hickory,
<i>Juglans squamosa</i> ,	Shell bark hickory,
<i>Juglans olivæformis</i> ,	Paccan
<i>Juglans nigra</i> ,	Black walnut,
<i>Juglans cathartica</i> ,	White walnut,
<i>Juniperus virginiana</i> ,	Red cedar,
<i>Acer rubrum</i> ,	Red maple,
<i>Acer negundo</i> ,	Box alder,
<i>Carpinus ostrya</i> ,	Iron wood,
<i>Carpinus americana</i> ,	Hornbeam,
<i>Cerasus virginiana</i> ,	Wild cherry,
<i>Cornus florida</i> ,	Dogwood,
<i>Diospiros virginiana</i> ,	Persimon,
<i>Fagus sylvestris</i> ,	Beech,
<i>Fraxinus tomentosa</i> ,	Common ash,
<i>Gleditchia triacanthos</i> ,	Honey locust,
<i>Nyssa aquatica</i> ,	Tupeloo
<i>Nyssa sylvatica</i> ,	Black gum,
<i>Platanus occidentalis</i> ,	Sycamore,
<i>Populus angulata</i> ,	Cotton wood,
<i>Tilia pubescens</i> ,	Linden,
<i>Ulmus rubra</i> ,	Red elm,
<i>Ulmus americana</i> ,	Mucilaginous elm,
<i>Ulmus aquatica</i> ,	Water elm.

There are many other species of trees found upon the rivers and hills in this tract, besides those marked in the above list, but those enumerated are the most remarkable and most common. The size and quantity of valuable timber trees that are every where found east of St Louis, upon the banks of the Ohio and Mississippi rivers and their confluent streams, is not the least remarkable feature in their natural history, or least beneficial part of their useful properties to man.

Wabash river, forms part of the southeast limit of Illinois territory, and possesses great sameness to the Ohio, near the confluence of the two streams. Several small, but fine rivers rise in the Illinois territory, and flow southeast into the Wabash, entering that stream below Vincennes: the principal of these are Embarras and Little Water. These two latter head with the sources of Kaskaskia river.

The other rivers of the Illinois territory are small and unimportant.

Many of the higher branches of the Illinois and Wabash are in the Indian country; of course but imperfectly known.

Mountains, there are none in the country of Illinois, or hills of any particular elevation. Some parts of the country is gently rolling, but the far greater part, flat prairie, or the alluvial margin of rivers.

Towns. Kaskaskia, upon the river of that name, is the only town of consequence yet formed in the territory of Illinois; it is the seat of government, and contains 800 or 1000 inhabitants.

Cahokia, four miles below St. Louis, and about one mile from the Mississippi, is a handsome, but small village. Of the new towns, we have no certain knowledge. No doubt but that the settlements of the bounty lands will produce a rapid and favourable change in the territory we have been describing. This settlement will also, as we have already noticed, necessarily withdraw the seat of government from Kaskaskia; and it may be added, change, within a few years, the territorial into a state government.

Schools, colleges, and all other institutions, must be here in their infancy; but like other new settlements made by the emigrants from the United States, the provision for the education of youth is neither forgotten or neglected.

Of the mineral or fossil productions of this country, we have said nothing. From the nature of the soil and surface, neither can be expected to abound, and the higher parts, where usually the most valuable and abundant metallic and fossil bodies could be reasonably sought after, we scarcely know, and have never been examined with either skill or care. (See Appendix No. II.)

THE STATE OF INDIANA, has the Illinois territory west, the state of Kentucky southeast, the state of Ohio east, and the Michigan territory, and lake Michigan and the Northwest territory, north.

Extent, population, rivers, productions. This state covers an area of 36,640 square miles, equal to 23,449,600 American acres. More than one half of this surface remains yet in possession of the Indians. The southern and much most valuable part of the state is reclaimed, and is settling with emigrants from the northern and eastern states with great rapidity. The following statistical table exhibits the subdivisions of this state, and the population in 1810. This can afford but very defective document to give a correct idea of the present state of the country. There is no doubt but that the number of inhabitants have increased to near one hundred thousand at the present time.

STATISTICAL TABLE OF INDIANA.

<i>Counties.</i>	<i>Population.</i> 1810.	<i>Chief Towns.</i>
Clark,	5,760	Jeffersonville,
Dearborn,	7,310	Lawrenceburg,
Harrison,	3,695	CORYDON,
Jefferson,		
Knox,	7,965	Vincennes.
	24,610	

Since the last census of 1810, the new counties of Washington, Switzerland, Jefferson, Wayne, Gibson, Posey, and Warwick, have been formed. The distributive population of the state of Indiana, at this time, as well as the aggregate amount, must differ essentially from the relative position and numbers found seven years past.

The rivers of the state of Indiana, are, Ohio, Wabash, Illinois, and Maumee.

Ohio river washes the state from the mouth of the Great Miami, to that of the Wabash, a distance, following the bends of the stream, of three hundred and sixty-five miles. It is a curious fact, that in this long course, no stream, above the size of a large creek, falls into the Ohio from Indiana; White river branch of Wabash, having its head-streams within thirty miles of the bank of Ohio. There are few countries in the world can much exceed this part of the banks of Ohio. The lands are varied, a considerable portion of the first quality, and but little that can be really considered unproductive. The settlements are in such quick progress as to render a description only necessarily correct for the moment.

Wabash river is strictly the principal stream of Indiana, from the surface of which it draws the far greater part of its waters. The head branches of Wabash is in the Indian country, of course very imperfectly explored. This river rises with the Maumee near Fort Wayne, and like the Illinois, flows to the west through Indiana, unto almost the west border of the state, where the river gradually curves to S. W. by S., which course it maintains to its junction with the Ohio. The entire length of the Wabash exceeds three hundred miles; it is a fine stream, without falls or extraordinary rapids. It was through the channel of the Wabash that the French of Canada first discovered the Ohio, to which they gave the name of *Belle Riviere*, or beautiful river, but considered the Wabash the main branch, and gave the united rivers its name. In many old maps of North America, the Ohio below the junction of the two streams, is called Wabash. The Tennessee was then very imperfectly known, and considered at one-fourth the size it was found to possess by subsequent discovery.

White River, the eastern branch of Wabash, is itself a stream of considerable importance, draining the heart, and far the finest part of the state of Indiana. About forty miles above its junction with the Wabash, White river divides into the north and south branches. North branch rises in the Indian country by a number of creeks, which, uniting near the Indian boundary line, forms a fine navigable river of about 180 miles in length; its course nearly S. W. South branch rises in the same ridges with the White Water branch of the Great Miami; its course S. W. by W. 150 miles. Upon this latter river many of the most flourishing settlements in the state have been formed. The country it waters is amongst the most agreeable, healthy, and fertile in the Ohio valley.

Illinois river has its source in Indiana, but has been noticed when treating of the Illinois territory.

Maumee rises in fact in the state of Ohio, near Fort Loramie, but flowing N. W. enters the state of Indiana, turns west,

encircles Fort Wayne, and turning N. E. again enters the state of Ohio, through which it flows to the place of its egress into Lake Erie.

The southern extremity of Lake Michigan penetrates the state of Indiana, and at or near its extreme south elongation, receives the Calumet, and not far north of its S. E. extension, the small river St. Joseph enters from the state of Indiana, but enters the Michigan lake in the Michigan territory.

The country is here but very imperfectly known; even the latitude of the southern extremity of Lake Michigan remains uncertain. When the French possessed Canada and Louisiana, their traders constantly passed by Chicago into Illinois, and by the Maumee into Wabash, in their voyages. These passages are now again becoming frequented, and will, within the lapse of a few years, present the active transport of commercial wealth, and the daily intercourse of civilized men.

It may be doubted whether any state of the United States, all things duly considered, can present more advantages than Indiana. Intersected or bounded in all directions by navigable rivers or lakes, enjoying a temperate climate, and an immense variety of soil. Near two-thirds of its territorial surface is yet in the hands of the Indians, a temporary evil, that a short time will remedy. When all the extent comprised within the legal limits of this state are brought into a state of improvement, with one extremity upon the Ohio river, and the opposite upon Lake Michigan, with intersecting navigable streams, Indiana will be the real link that will unite the southern and northern parts of the United States. The connexion between the Canadian lakes and the Ohio and Mississippi rivers, is by no route so direct as through Michigan and Wabash, and by Lake Erie, Maumee and Wabash. The route by Lake Michigan and the Illinois river into the Mississippi is more circuitous than by that of the Wabash into either Lakes Michigan or Erie, and the route through Illinois has another irremediable disadvantage, that of being in a more northern latitude than the Wabash.

When the rivers are in a state of flood, loaded boats of considerable size pass from the head waters of Wabash into St. Mary river, the western branch of the Maumee; the same facility of passage exists between Maumee; the Chicago into the Illinois river.* These facts prove two things: first, the almost perfect level of the country, and secondly, the great ease with which canals can be formed, and the very limited expense of their construction.

In the present state of population, the communication by the Wabash and Miami of the Lakes into Lake Erie, must produce advantages of greatly more extensive benefit, than by Lake Michigan and Illinois river. Many years must elapse before either is opened. The country is yet wilderness, and the right of soil in the aboriginal inhabitants.

Like Illinois territory, the state of Indiana has no mountains; the latter is however more hilly than the former, particularly towards the Ohio river.

* See Drake's Cincinnati, page 222 and 223. Volney, Paris edition, Vol. I. page 29.

The southeastern extremity of Indiana, between White and Ohio rivers, is very broken. A ridge of hills commences above the junction of the Wabash and Ohio, which extending in a N. E. direction through Indiana, Ohio, Pennsylvania, is finally lost in the state of New-York. This ridge in Indiana separates the waters of Wabash from those of Ohio river; and in Ohio, Pennsylvania, and New-York, forms the demarkation between the streams which flow into the Canadian lakes from those which discharge their waters into the Ohio. No part of this ridge is very elevated; its component parts are limestone and schistose sandstone. It is barren of minerals except iron and coal.

Towns—Villages—Schools.—Corydon, on the road from Louisville to Vincennes, is now the seat of government. This town is recent, but rapidly improving. The number of its houses or inhabitants we are unable to state, and it would not, if now accurately given, remain so one year.

Vincennes, upon the left bank of the Wabash, is the oldest and the largest town in the state; having been built by the French from Canada; most of the inhabitants are of French extraction. The site of the town is level, and when in its natural state, was an extensive prairie. The lands are fertile in a high degree. In a commercial point of view, the position of this town is very advantageous, and must advance rapidly. Standing upon the limit of two territorial divisions, Vincennes cannot ever again become the seat of government, a loss more than compensated by a favourable situation for agriculture, and the transport of produce to New-Orleans, Pittsburg, and indeed to the entire western and southern parts of the United States.

Blackford, Harmony, Madison, Lawrenceburg, and Brookville, are all towns of this state. Being of recent formation, they are mostly small, and have nothing very worthy of notice to distinguish them from each other.

No good topographical or statistical account having been yet published upon this state, the data are not abundant respecting its towns or other artificial improvements.

The political institutions of this new state are honourable in a high degree to the framers; the constitution of the state provides every restraint against the encroachments of power, and the licentiousness of freedom, that human wisdom can perhaps foresee. Slavery is banished from the state, or rather it never was received within its borders. The inhabitants at this moment enjoy all that liberty, industry, and impartial administration of justice can bestow.

Colleges and schools can scarce be considered to exist as public institutions; private schools are numerous, and increasing with the population.

Productions—Staples.—Flour may be considered the principal artificial production and staple. Much of the land is well calculated to produce wheat. Mill streams abound. Rye is also extensively cultivated, and used as bread grain, to feed horses, and to supply the distillers. Maize is, next to wheat, the most valuable crop cultivated in Indiana. The fertile alluvion upon the rivers and many parts of the prairies are admirably adapted to the production of this excellent vegetable. The quantity made from an acre of land cannot be de-

terminated with any precision; but the production is generally abundant. In all the new settlements in the Ohio and Mississippi valley, maize is the crop first resorted to for providing subsistence, and we believe it to be the only grain that in many places would have rendered settlement possible. The rapidity of its growth and the easy application of its farina to use, will always secure to maize a rank amongst the most precious vegetables yet cultivated by mankind.

Oats, barley, and buckwheat, are also reared; the former in great abundance as food for horses. Potatoes (Irish potatoes) are cultivated in plenty, as is a great variety of pulse. Pumpions, squashes, melons, and cucumbers are cultivated and may be produced in any assignable quantity.

In no country could artificial meadow be made to more advantage. This useful part of agriculture is almost always neglected in our new settlements, and only becomes an object of attention when the natural range is exhausted. The great body of the emigrants coming from places where artificial meadows are in use, their immense benefits are not to be learned by all.

For domestic consumption and exportation, are made large quantities of beef, pork, butter, lard, bacon, leather, whiskey, and peach brandy. With but little exception, Natchez and New Orleans are the outlets of the surplus produce of Indiana. A few articles are occasionally sent to Pittsburgh, but that commerce, never extensive, is on the decline. The attention of the inhabitants is drawn towards the natural channel, through which their wealth must circulate. Sugar, coffee, wines, and foreign ardent spirits, are brought from New Orleans, but of the former necessary, considerable quantity is made in the country from the sap of the sugar maple tree.

Dry goods, hardware, ironmongery, paper, and books, are mostly imported by the route of Pittsburgh. Some of all those articles, the two latter perhaps excepted, are also imported from New Orleans. Saddles, bridles, hats, boots, and shoes, are manufactured, in great part, in the state. This indeed is a trait that marks the whole western states, that the latter indispensable articles of domestic consumption are generally to be found at every new settlement, for prices not greatly advanced above that of the same objects in large commercial cities on the Atlantic coast.

The same observations may be made respecting cabinet, and all other kinds of household furniture. Tables, chairs, and bedsteads, are made in all the large towns in the valleys of Ohio and Mississippi, with all the requisite qualities of elegance and strength.

Except in Lexington, Kentucky, and Pittsburg, book printing is not yet done to any considerable extent west of the Alleghany. In these two latter places and in Cincinnati, Nashville, and some other places, book stores have been established to considerable extent, but a well assorted library could not be formed in any, or perhaps all those towns. Professional men, and indeed all men who are emigrating to the west, ought to carry with them such books as they may need. It is not without more difficulty than is commonly believed to exist, that a good selection of books can be made even in New-York or Philadelphia, much less in towns upon the Ohio or Mississippi waters.

CHAPTER VI.

STATE OF OHIO. This state is bounded on the west by the state of Indiana, north by the Michigan territory and lake Erie, east by Pennsylvania and the Ohio river, and southeast and south by the Ohio river; having a frontier in common with Indiana, Michigan, Pennsylvania, Virginia, and Kentucky.

Population—extent.—The following statistical table exhibits the present county divisions, and population as it stood in 1810 and 1815.

TOPOGRAPHICAL TABLE.

Counties.	Population.		Chief Towns and Population.
	1810.	1815.	
Adams	9,434	10,410	West Union
Ashtabula		3,200	Jefferson
Athens	2,791	3,960	Athens
Belmont	11,097	12,200	St. Clairsville
Butler	11,150	11,890	Hamilton
Cuyahoga	1,459	2,500	Cleveland
Champaign	6,303	10,460	Urbanna
Clermont	9,965	12,240	Williamsburgh
Clinton	2,674	4,600	Wilmington
Columbiana	10,878	13,800	New Lisbon
Coshocton		3,000	Coshocton
Dark		1,500	Greenville
Delaware	2,000	5,000	Delaware
Fairfield	4,361	13,660	New Lancaster
Fayette	1,854	3,700	Washington
Franklin	3,486	6,800	Franklin
			COLUMBUS
Gallia	4,181	6,000	Gallipolis
Geauga	2,917	3,000	Chardon
Guernsey	3,051	4,800	Cambridge
Green	5,870	8,000	Zenia
Hamilton	15,258	18,700	CINCINNATI
Harrison		7,300	Cadiz
Highland	5,760	7,300	Hillsborough
Huron		1,500	Avery
Jefferson	17,260	15,000	Steubenville
Knox	2,149	3,000	Mount Vernon
Licking	3,852	6,400	Newark
Madison	1,603	2,100	New London
Medina			Mecca
Miami	3,941	5,910	Troy
Monroe		1,200	
Montgomery	7,722	13,700	Dayton

Counties.	Population.	Population.	Chief towns and population.
	1810.	1815.	
Muskingum	10,036	11,200	Zanesville
Pickaway	7,124	9,260	Circleville
Portage	2,995	6,000	Ravenna
Preble	3,304	5,509	Eaton
Richland		3,200	Mansfield
Ross	15,514	18,000	Chillicothe
Scioto	3,399	3,870	Portsmouth
Stark	2,734	6,625	Canton
Trumbull	8,671	10,000	Warren
Tuscarawas	3,045	3,880	New Philadelphia
Warren	9,925	12,000	Lebanon
Washington	5,991	3,800	Marietta
Wayne		7,100	Wooster.
	230,760	322,790	

In the tables included in the geographical treatise published with this work, the population of the state of Ohio is calculated to amount to 346,000, in the present year, 1817. By the information contained in Kilbourn's Ohio Gazetteer, that state possessed, in 1815, 322,790 inhabitants. Both the foregoing estimates fall short no doubt of the actual numbers at the epocha assumed. At the commencement of 1818 the inhabitants of the state of Ohio will most probably exceed 350,000.

No state in the United States has been so accurately surveyed as that part of Ohio which has been hitherto settled, of course none exists the area of which is so perfectly known. The inhabited parts of the state extends over an area of about 32,000 square miles, or 20,480,000 American acres. The northwest part of the state, amounting to within a small fraction of 8,000 square miles, remains yet in possession of the Indian tribes; a considerable portion of this latter tract was however recently purchased from the savages.

The entire area of the state of Ohio is very little above 40,000 square miles, or 25,600,000 acres.

Natural geography.—*rivers,*—*lakes,*—*mountains,*—*hills,*—*minerals.*
—The rivers of the state of Ohio are, the Ohio, Great Miami, Little Miami, Scioto, Hockhocking, Muskingum, Cayahoga, Ashtabula, Sandusky, Grand river, and Maumee.*

Ohio river, forms the limit of the state of Ohio, from Georgetown in Pennsylvania, where the line between the latter state and Virginia intersects the Ohio, to the mouth of the Great Miami; a distance of 412 miles, following the sinuosities of the stream. From Georgetown to Big Sandy river, the Ohio divides Virginia from the state of Ohio;

* Dr. Drake has given to the Miami of the lakes the name of *Maumee*, without explaining why. It is painful and disgusting to read the awkward descriptive names so often given to American rivers; it was no doubt with a view to obviate this inelegant repetition that this judicious author adopted this name, but the two sounds produced by Miami and Maumee are too similar to ensure the desired purpose effectually.

from the mouth of Big Sandy to that of the Great Miami, the Ohio river separates the state of Kentucky from the state of Ohio.

Where it washes the state of Ohio, the river forms an immense bend; presenting its convexity into Virginia and Kentucky. Opposite the former the general course is nearly southwest; but below the mouth of Big Sandy the Ohio turns to northwest by west, nearly which course it maintains to the mouth of the Great Miami. There are many partial bends that add to the varieties of this beautiful stream. That part of Ohio river which we are now describing, contains the most pleasing part of its scenery, and the most fertile of its shores. It is in reality difficult to conceive of any river of the world winding through a valley more rich in the bounties of nature, or more elegantly chequered with hill and dale. Many picturesque islands contribute to give relief to this delightful canvass. In a distance of upwards of four hundred miles not ~~one~~ bend of the river but what presents a new landscape entirely different from that of any other. The bottoms are from a quarter to a mile wide, having generally a perceptible slope backwards to the base of the hills. The soil is uniformly fertile in a high degree, producing, in great abundance, wheat, maize, rye, oats, barley, and indeed every product necessary to human subsistence that the climate will admit.

Fruits are also produced in great quantity and of excellent quality, particularly apples and peaches. The Ohio bottoms are supposed to produce the latter fruit in greater degree of perfection than any other part of North America hitherto peopled by the whites. These bottoms have been also considered the favourite soil of maize; that grain does indeed reach in this rich loam the utmost developement of its growth.

There are upon the margin of the Ohio, often two, and sometimes three, bottoms, rising one above another by elevations of 20 or 30 feet. The soil of the highest and lowest does not differ materially, and though extremely fertile, wheat succeeds perfectly well upon all. For a few years after being first cleared from wood, wheat is apt to grow too heavy in the straw and fall before becoming ripe; but four or five years culture removes this exuberance, and wheat comes to full perfection.

This favourable representation of the lands upon the Ohio must be confined to the bottoms of that river; the most hilly and broken part of the state of Ohio is that part immediately contiguous to the river. These hills are rich in mineral coal, which have been found in a great number of places, and no doubt exists in the entire range of hills that skirt the Ohio in all the extent of the state. Iron ore has also been discovered in several places. Those hills are in their natural state covered with a dense forest, composed of a great variety of valuable timber trees: and amongst others the various species of oaks, poplar, ash, elm, linden, and maples, may be considered the most predominant. Sugar maple is in many parts very abundant, large and productive.

Great Miami, rises in the Indian country by two branches, which unite in Miami county. The united streams flow south through

Miami and Montgomery counties, enters the northeast corner of Butler, through which and Hamilton counties it continues in a southwest by south course to its junction with Ohio river, $39^{\circ} 04'$ north lat. $7^{\circ} 35'$ west lon. from Washington city. The entire length of the Great Miami is about 130 miles, above 100 of which are in the settlements. Several branches fall into this river; the White water and Southwest branch from the west, and Mad river from the east. The two latter enter the Great Miami a short distance above the town of Dayton, 75 miles above the mouth; thus far the river is navigable. Like all the waters of the state of Ohio which flow into Ohio river, the current of the Great Miami is excessively rapid; as is also that of all its branches. This trait in the natural history of those rivers arises from the quick descent from the high table land in the centre of the state.

Little Miami. The main branch of this stream rises in Green county, through which and Warren county it flows in a southwest direction, then, for twelve miles, forms the limit between Hamilton and Clermont counties, receives a branch from the eastward and enters the former county, and after traversing its surface eight miles, falls into the Ohio six miles above the town of Cincinnati. The entire length of this stream, by either branch, is about sixty miles in a direct line, but more than twice that distance if the meanders of the stream are pursued. The channel of this river is very precipitous, affording an immense number of mill seats; many of which are already improved. One or two paper mills are already erected on its banks.

Sciota river, rises in the Indiana country, north of Champaign county. The country out of which this river flows is morass; the head branches interlock with those of Sandusky, an Glaze branch of Maumee, and with those of the Great Miami. Whetstone river, the northwest branch of Sciota, rises in Richland county, flows over the northern oblong of Delaware county, enters the Indian country, which it traverses in a southwest course, and again enters Delaware county. Seven miles along the Indian boundary line, from where that line is passed by the Whetstone, it is intersected by the Sciota; the two rivers flow a little south of east, nearly parallel, upwards of thirty miles, over the surface of Delaware and Franklin counties, and finally unite at the town of Columbus, the seat of government for the state of Ohio. The united streams form the Sciota, which, pursuing nearly a south course of upwards of one hundred miles through Franklin, Pickaway, Ross, Pike, and Sciota counties, joins the Ohio river at the town of Portsmouth. The tributary streams of the Sciota are from the southwest, Paint creek, Deer creek, Darby's creek, and Mill creek; those from the southwest are, Salt creek, Walnut creek, and Big-belly creek.

The Sciota is an extremely rapid river, but the stream falling gradually, it is navigable to the town of Columbus; towards its source the country is marshy, in the middle level, though not absolutely flat, with much fertile soil; towards the Ohio the country becomes very hilly and broken.

Hockhocking river, rises in Fairfield county, near New Lancaster,

and, winding through a very hilly country, falls into the Ohio river at Troy, after a course of about eighty miles in a southeast direction.

This river has two considerable falls, which by abruptly precipitating the volume of water to nearly a level with that in the Ohio, renders this small stream the greatest distance navigable, comparatively with its length, of any stream in the state of Ohio.

Muskingum river,—the most extensive river whose entire sources and course are in the state; its extreme north sources are in Richland, Wayne, and Stark counties, interlocking with the head waters of Huron, Vermilion, Black, Rocky, and Cuyahoga rivers, which fall into lake Erie. The Muskingum is formed by the union of White Woman's and Tuscarawas rivers, at the town of Coshocton, in Coshocton county.

White Woman's river, is itself formed by the junction of Owl and Mohecan creeks, a few miles above the town of Coshocton. Owl creek rises in the southwest corner of Richland and Mohecan, in the centre of Richland and the western part of Wayne county, by two large creeks, which join in the southwest corner of the latter; the united streams flow south into Knox, through which it ranges twelve miles, turns southeast into Coshocton county, quickly joins with Owl creek, and forms White Woman's river. Killbuck creek rises in Medina county, and after a southern course of about sixty miles through Medina, Wayne, and Coshocton counties, falls into White Woman's river six miles northwest of the town of Coshocton.

Tuscarawas river. The north branch of this stream, Indian creek, rises in the Medina county, and pursuing a southeast course of twenty-five miles, through Medina, Wayne, and Stark counties, then, within the latter, bends to the south, and continues that direction thirty-five miles, to near the centre of Tuscarawas county, where it turns west-southwest, and after following that course thirty miles, joins White Woman's, and forms the Muskingum river; the entire length of the Tuscarawas is nearly eighty-five miles. By a very circuitous channel of upwards of one hundred miles, below the junction of White Woman's and Tuscarawas rivers, the Muskingum falls into the Ohio river at Marietta, having only received, in this latter distance, one creek worthy particular notice, that is, Licking creek, from the county of the same name, a small stream of about thirty miles in length.

The Muskingum is navigable to the town of Coshocton for batteaux of considerable size; smaller vessels ascend its tributary streams, at high water, forty or fifty miles higher. At Zanesville, near the mouth of Licking creek, the Muskingum is obstructed by considerable falls. A company was incorporated in 1814, to construct lock navigation around these falls; the operations of the company are commenced; estimated expense, one hundred thousand dollars.

A remark made respecting the country watered by the Sciota, is equally applicable to that of the Muskingum, that of becoming more hilly as the Ohio river is approached. The region watered by the Tuscarawas is also much more broken than that of White Woman's river. The current of the Muskingum and all its branches is very rapid.

Some of the best land in the state is upon this river; the country watered by it has considerable resemblance to the western parts of Pennsylvania.

The peninsula included between the Ohio and Muskingum rivers is far the most broken part of the state of Ohio. In this tract limestone and mineral coal abound. No streams of any considerable consequence enter the Ohio river from either bank, between Big Beaver and Muskingum, a distance of upwards of one hundred miles. The Monongehela and Muskingum rivers flows nearly parallel to each other, though in opposite directions, and preserve very nearly an equal distance from the Ohio, about forty miles; the intermediate spaces extremely broken.

Big Beaver rises partly in the state of Ohio, but its mouth is in Pennsylvania: that part of this stream, Mahoning creek, which rises in the state of Ohio, has its source in Portage county, flows east into Trumbull, in which latter county, at the town of Warren, it turns southeast, which course it pursues until passing the line of demarkation between the two states, it leaves Ohio and enters Pennsylvania, a short distance within which it falls into the Ohio river at the town of Beaver,

The dividing line between the waters which flow into the Ohio river, from those which enter Lake Erie, winds through Ashtabula, Trumbull, Portage, Medina, and Richland counties. Leaving the white settlements, this line runs through the Indian country, first west between the head waters of the Sciota and au Glaize rivers, then turning southwest between the sources of the Maumee and Miami, enters the state of Indiana. This dividing line, in nearly all its range in the state of Ohio, traverses high table land, some parts of which are marshy, none very hilly. The line after leaving Pennsylvania, gradually declines from Lake Erie, in such manner that the rivers that enter that lake, have a nearly regular increase of length, advancing through the state of Ohio from northeast to southwest. The most remarkable of these lake streams, are, the Maumee, Sandusky, Huron, Vermilion, Black, Rocky, Cayahoga, Chagrine, Grand, and Ashtabula rivers.

Maumee river rises in the Indian country, near Fort Loramie, flows first, by the name of St. Mary's river, southwest thirty-five miles, enters the state of Indiana, thence turns west thirty miles, again enters Ohio, and assuming a northeastern course, runs twenty-five miles and unites with the au Glaize river, and now assuming the name of Maumee, continues N. E. seventy-five miles to Lake Erie. The au Glaize river rises near the sources of the St. Mary's, but flows very nearly west forty miles, receives Blanchard's fork, and twenty miles farther joins the St. Mary. The Maumee is navigable from the border of Indiana to within a short distance of its mouth, where it is obstructed by falls and rapids. The lands are represented to be extremely fertile which are watered by this stream; much of the surface is however either prairie or marshy. An immense swamp lies between the Maumee and Sandusky, and reaches nearly to the au Glaize river. The entire length of the Maumee, exclusive of its particular windings, is one hundred and sixty-five miles.

Sandusky river rises in the same swamp with the *Sciota*, and flows north sixty miles into Sandusky Bay. This river receives but few tributary streams, is a very rapid stream, but little impeded by shoals or falls. The land it waters is a great part prairie, much of it marshy.

The other rivers falling into Lake Erie, have but little to distinguish them from each other, and nothing to render a particular description necessary.

It has been already observed, that there are no mountains in the state of Ohio: it has also been noticed that the border of the state along the state of Ohio, is extremely hilly and broken. Those hills do not however rise above the central table land; they appear indeed to be merely the remains left by the rivers, which in the lapse of ages have worn down their channels to their present level. The hills abound in mineral coal lying in horizontal strata. It is more than probable, that by sinking shafts to sufficient depth, that coal would be found in most parts of the central table land.

Except coal, the state of Ohio does not appear to be very rich in minerals; salt springs have been found upon *Sciota*, some of which are now in operation. Iron has been discovered near the Ohio river in many places. Limestone of excellent quality abounds. The most abundant rock is however sandstone slate; this stone may be considered the basis of the country.

Progressive Geography—History—Towns.—The first civilized nation who discovered the country now called the state of Ohio was the French, who reached this region from Canada. It does not appear that this nation ever made any settlements of consequence within what is now the limits of this state. The country remained in the possession of the savages until long after the termination of the revolutionary war. The Shawnees, Mingoes, and Potawatomes, were the principal tribes who inhabited this fine country. The first permanent settlement made by the whites was in 1787, at the mouth of the Muskingum. Rufus Putnam, under the direction of the Ohio Company, commenced Marietta, and the following year John Cleves Symmes made an establishment at the north bend. A war with the savages soon after commenced, and in a great measure prevented the progress of settlement. After a sanguinary contest of five years, this was terminated by the treaty of Greenville, August 20th, 1795. This was the real epoch of the settlement of this now flourishing state. That part included in the counties named in the statistical tables prefixed, was then ceded, and soon after surveyed and sold. The cheapness of all the lands and fertility of great part, invited an immediate and very numerous emigration. The class of people who have populated Ohio, has been in great part farmers from the northern and middle states. The prohibition of involuntary servitude has taken from useful labour that tacit odium so prevalent in the southern states, and has contributed to secure to the state of Ohio a numerous body of useful, industrious, and respectable mechanics and artisans. As far as equality in condition and civil rights can secure the happiness of a people, the inhabitants of the state of Ohio possess those advantages.

The tenure of the lands being drawn from the United States, litigation arising from disputed titles must be very rare. The mode of surveying the public lands, has also a tendency to simplify the demarcation between individual proprietors, and renders certain what in many other countries, and even in parts of the United States, is the fruitful source of animosity and legal disquisition. This latter improvement in land tenure, is not however peculiar to Ohio; it is enjoyed in common by all persons, in any part of the United States, who hold their titles from the government. To know and appreciate the full value of this mode of conveyance, it is only necessary to contrast the history of land titles in Pennsylvania and Kentucky with that in Ohio. So recent, however, has been the commencement of sales from the United States, and the lands actually held in that manner are comparatively so confined in extent,* that the benefits arising therefrom are but partially enjoyed.

As in every other part of the United States, perhaps of the world, the first settlements extended along the rivers, and were rapid in advance and compact in their formation, following the fertility of the soil, and facility of commercial ingress and egress. A line drawn from Steubenville in Jefferson county, to Hamilton in Hamilton county, will run very nearly through the most fertile, and far the most compactly peopled parts of the state. The following view of the towns of the state of Ohio, will exhibit the rapid increase of a region, to the improvement of which not an axe was laid thirty years before this article was written.

CINCINNATI, though not now the seat of government for the state, is, after Pittsburg, the first commercial town of the Ohio valley. This flourishing town stands upon the right bank of the Ohio river, 22 miles above the mouth of the Great Miami, at 39° 06' N. lat. 7° 20' W. lon. from Washington city.

The progress of this place is an abridgment of the history of improvement in the Ohio valley. Fort Washington, the germ of Cincinnati, was formed in 1788, and soon after the town was surveyed. Many years passed away before the Indian wars and other impediments permitted any improvements of consequence to take place.

In 1815, Cincinnati contained upwards of 600 dwelling-houses, and perhaps 7000 inhabitants. Beside dwelling-houses, more than 500 other buildings were occupied as stores, warehouses, schools, places of worship, courts of law, manufactories, and other purposes. Many of those buildings are large and elegant, constructed of stone or brick. Several denominations of Christians have churches, splendid and spacious; the most remarkable are those possessed by the Baptists, Presbyterians, Methodists, and Friends. The building in Cincinnati that most deserves the attention of strangers, and which on review must excite a glow of the very best feelings of human nature, is the Lancasterian school-house. This edifice consists of two wings, and a connecting building containing the stair-cases. One of the wings is appropriated to boys, the other to girls. Upwards of 400 children are now educated in this seminary, and the house is

* September 30th, 1814, only 5,285,467 acres of public land had been sold. *Fitch's View*, p. 234.

calculated to receive 1100. Amongst the many objects that must arrest the attention and claim the admiration of the traveller, there is none that can deserve his attention more than this institution. Virtue, science, and the principles of social life, are now taught, where, less than thirty years past, stood a forest; or if the human form or habitation made their appearance, it was the species in its rudest state of savage life.

Here are also three brick market-houses, in which are exposed every necessary, and many luxuries of life. An enormous stone building is erected on the bank of Ohio as a steam manufactory; it is nine stories high, and intended for making flour and oil, and also to be used as a fulling mill. A steam saw mill is also erected. A large building has been raised by the Cincinnati manufacturing company, for the execution of their operations. There are one woollen and four cotton factories, two glass-houses, a sugar refinery, and two or three breweries.

Two printing-offices publish each a weekly paper. There are three banking establishments in Cincinnati; two professedly such, and one commercial association, which issue promissory notes, and discount as a banking company.

The prosperity of Cincinnati is a proof of the insuperable advantage of early establishment and of previous wealth and enterprise. Louisville is certainly more favourably situated to become the entrepot between the Mississippi and Ohio, yet though at the head of constant batteaux navigation, and of antecedent establishment, the latter town has languished when compared with the former.

The ground upon which Cincinnati is built gives it many advantages in point of cleanliness, beauty, and convenience. Two bottoms, one upon the margin of Ohio river, the other rising like the step of an amphitheatre 30 or 40 feet. This circumstance enables the inhabitants to drain their streets into the Ohio, and opens a vent for the air in all directions.

In brief, Cincinnati shares with Pittsburg the commerce of the valley of Ohio; the former is to the Mississippi what the latter is to Baltimore, New-York, and Philadelphia. If any calculation could be hazarded upon the advance of either, it might perhaps be justifiable to predict that for a great length of time these two towns will bear very nearly the same relation to each other that they do at this time.

Hamilton, the seat of justice for Butler county, and a post town, 25 miles north from Cincinnati and 105 southwest from Columbus, contains between sixty and one hundred dwelling-houses, a printing office, and several merchants' stores. This town is situated upon the east bank of great Miami.

Dayton, the seat of justice for Montgomery county, is situated upon the left bank of Great Miami, immediately below the mouth of Mad river; it is also a post town, containing about one hundred dwelling-houses; a number of wealthy merchants are settled in this place, who transact business with the rich country in the vicinity. The neighbourhood of Dayton presents a great number of mills, and other machines propelled by water. There are in the town one bank, an academy, and several houses of religious worship. It is distant from Columbus west by south 66 miles, and 52 north from Cincinnati.

Williamsburg, in Clermont county, has a post office, is the seat of justice for the county, and is a flourishing village upon the east branch of Little Miami.

Chillicothe, in Ross county, is the second town in population and wealth in the state; it stands upon the right bank of the Sciota at 39° 20' north lat. 5° 53' west lon. from Washington city. It was laid out in 1796, and now contains near 500 dwelling-houses, and 3,300 inhabitants. The situation of this town is singular and romantic; it stands upon a bend of Sciota river, with a hill of near three hundred feet elevation on the west side of the town, affording from its summit a delightful view of the river and adjacent country.

The improvements made in this town and vicinity are numerous and valuable. Of public buildings, the most noted are three places of public worship, an academy, court-house, and market-house. Here are four cotton factories, and a great number of mills and machines of different kinds; three printing offices, which publish a weekly paper each. The central position of Chillicothe gives it many advantages for the transaction of the interior commerce of the country in its neighbourhood. It is situated 45 miles south of Columbus, and 93 nearly north by east of Cincinnati.

Columbus, the capital of the state of Ohio, is a flourishing new town laid out in 1812, upon the left bank of the Sciota river, at 39° 47' north lat. 6° 04' west lon. from Washington city. It stands near the centre of Franklin county, and within twenty miles of the centre of the state, in a fine fertile country; of course, the inhabitants may safely conclude that the town will continue to be the seat of government.

To persons from Europe, many of the facts related of the improvements in the valley of Ohio must appear almost incredible, and none certainly can approach the marvellous and yet be strictly true, more than the history of the town of Columbus.

The lots were first exposed for sale in June, 1812, and the town now contains upwards of three hundred dwelling-houses, and about two thousand inhabitants; four or five schools, a bank, two or three printing offices, ten or twelve mercantile stores; a state-house, 75 by 50 feet, and a penitentiary.

Columbus is 115 miles northeast from Cincinnati.

Zanesville, the seat of justice for Muskingum county, and a post town, stands upon the left bank of Muskingum river, opposite to the mouth of Licking creek, at 39° 58' north lat. and 5° 02' west lon. It has upwards of 20 stores, 350 dwelling-houses, and 1500 inhabitants. Two glass factories have been erected in its vicinity. The town possesses two banks, two or three printing offices, and several places of worship.

The falls in the Muskingum near this town provide a natural facility for the erection of labour-saving machinery, which the inhabitants seem disposed to improve to the utmost. Already have been erected a nail cutting machine, many flour mills, a woollen factory, and several saw-mills. Two bridges of stone have been built over the Muskingum near this town, connecting it with Putnam, a village on the opposite bank. Putnam is itself a place of considerable consequence, containing an academy, a number of stores, about 500 inhabitants

who vie with those of Zanesville in active enterprise; in reality the two places may be strictly considered as one town. Putnam is marked on Hough & Bournes's map by the name of Springfield, though the name has changed by a legislative act at the session of 1813-14.

The situation of these towns, either as a manufacturing or mercantile position, is very advantageous. The navigation of the Muskingum is uninterrupted to the mouth. The adjacent country is fertile and well-peopled; it is situated 138 miles southwest by west from Pittsburgh, 67 northeast from Chillicothe, and 161 northeast by east from Cincinnati.

Marietta, is the oldest town in the state, some of the settlers having formed their locations in 1787. It is a post town and seat of justice for Washington county, and is situated upon the peninsula formed by the Muskingum and Ohio rivers, at $39^{\circ} 30'$ north lat. and $4^{\circ} 28'$ west lon. from Washington city.

The advance of this town in relative importance has not borne a proportion to its prior settlement or apparent favourable position. The site of the town though otherwise delightful, is liable to annual overflow; an inconvenience which, from the peculiar localities, is irremediable.

Ship-building commenced here about 1800, and was many years carried on; several vessels were built, but the interruption in commerce between 1806 and 1815 suspended this business; a wealthy commercial and exporting company has been recently formed in this town, which will no doubt add greatly to its future prosperity.

The mail arrives here direct from Washington, a distance of 320 miles; there is a distributing post office for the various other parts of the state. The number of inhabitants may amount perhaps to 1000.

Steubenville, the seat of justice for Jefferson county, and a post town, stands upon the right bank of Ohio, at $40^{\circ} 25'$ north lat. and $3^{\circ} 40'$ west lon. from Washington city. The site of this town is like that of Cincinnati, composed of two banks rising from the river. The scenery in the neighbourhood is romantic and pleasing; the opposite shore of Virginia is a bold ledge of rocks rising abruptly almost from the water edge to an elevation of 250 or 300 feet. Though very hilly and broken in both Virginia and the state of Ohio, the adjacent country affords much very fertile bottoms and high land. It is one of the most wealthy, best peopled and cultivated tracts in the United States west of the Alleghany mountains.

The town was laid out in streets and lots in 1798. The author of this treatise was on the spot in the first week of January, 1799; there was then one mercantile store, two slight frame houses, and about a dozen miserable cabins. Most of the ground was covered with a thick forest; little appearance was then exhibited of the flourishing and beautiful town that now adorns the banks of the Ohio. Within one month of 18 years (February, 1817,) after the time of the foregoing description, Steubenville contained upwards of 450 dwelling-houses, and a population of 2000 inhabitants; a printing office, woollen and cotton factory, paper-mill, near 60 mercantile stores, a bank, a spacious market-house, an air foundry. In the vicinity are several saw and grist mills, as also a number of distilleries.

This town possesses the invaluable advantage of having an almost inexhaustible body of mineral coal within a short distance. Limestone, excellent building stone, and also sandstone exist in abundance near the bank of Ohio river, both above and below the town. Iron ore is found in both the states of Virginia and Ohio; a furnace and a forge were in operation upon King's creek, in Brooke county, Virginia, in 1799, within eight miles from Steubenville; bar iron is however imported from Pennsylvania.

The foregoing are the principal towns of the state of Ohio: there are several very flourishing villages, though of secondary consequence; such as Xenia, in Green county, Greenville in Darke, Troy in Miami, Urbanna in Champaign, Delaware in Delaware, Williamsburg in Clermont, New Lancaster in Fairfield, Athens in Athens, Coshocton in Coshocton, Mount Vernon in Knox, New Philadelphia in Tuscarawas, Wooster in Wayne, Canton in Stark, Cadiz in Harrison, Lisbon in Columbia, Warren in Trumbull, and Jefferson in Ashtabula county.

New towns are annually rising in such numbers, as to render it extremely difficult to enable topographical description to keep pace with the progress of improvement.

Productions,—Seasons,—Climate.—We have made these objects a separate article, from a consideration, that, from its position, the state of Ohio must afford a picture of nearly the whole valley of the river from which its name is taken.

The following list contains the most valuable of the timber trees of Ohio.

<i>Platanus occidentalis,</i>	Button wood,
<i>Juglans nigra,</i>	Black walnut,
<i>Juglans cinerea, or cathartica,</i>	Butter nut,
<i>Juglans squamosa,</i>	Shell bark hickory,
<i>Juglans porcina,</i>	Pignut hickory,
<i>Juglans amara,</i>	Bitternut hickory,
<i>Quercus tinctoria,</i>	Black oak,
<i>Quercus alba,</i>	White oak, several species,
<i>Quercus prinus acuminata,</i>	Chestnut oak,
<i>Quercus prinus monticola,</i>	Mountain oak,
<i>Quercus falcata,</i>	Spanish oak,
<i>Quercus rubra,</i>	Red oak,
<i>Acer saccharinum,</i>	Sugar maple,*
<i>Acer rubrum,</i>	Red flowering maple,
<i>Acer negundo,</i>	Box alder,
<i>Populus deltoides, or angulata,</i>	Cotton wood,*
<i>Populus tremula,</i>	Aspen,
<i>Pavia lutes,</i>	Buckeye,
<i>Laurus samafra,</i>	Sassafras,
<i>Circis canadensis,</i>	Red bud,
<i>Prunus virginiana,</i>	Wild cherry,
<i>Tilia pubescens,</i>	Downy leaved linden,
<i>Tilia americana,</i>	Black linden,

* This tree grows upon the Ohio as high as Steubenville.

<i>Annona triloba,</i>	Pawpaw,
<i>Robinia pseud-acacia,</i>	Black locust,
<i>Gleditsia triacanthos,</i>	Honey locust,
<i>Magnolia acuminata,</i>	Columbia tree,
<i>Liriodendron tulipifera,</i>	Poplar,
<i>Morus rubra,</i>	Red berried mulberry,
<i>Pinus abies,</i>	Hemlock spruce,
<i>Fagus sylvestris,</i>	Beech,
<i>Fagus castanea,</i>	Chestnut,
<i>Carpinus americana,</i>	Hornbeam,
<i>Carpinus ostrya,</i>	Iron wood,
<i>Betula nigra,</i>	Black birch,
<i>Salix nigra,</i>	Black willow,
<i>Juniperus virginiana,</i>	Red cedar,
<i>Celtis crassifolia,</i>	Hackberry,
<i>Diospiros virginiana,</i>	Persimon,
<i>Nyssa sylvatica,</i>	Black gum,
<i>Fraxinus americana,</i>	White ash,
<i>Fraxinus aquatica,</i>	Swamp ash,
<i>Fraxinus quadrangularis,</i>	Blue ash,
<i>Ulmus americana,</i>	Slippery elm,
<i>Ulmus rubra,</i>	Red elm.

The most dense forests in the state of Ohio are on its south and southwest borders, near the Ohio river. Perhaps no part of the earth ever produced more timber, upon an equal space, than does many places near the margin of the latter river, and upon the banks of most of its confluent streams near their mouths. It has been observed that the timber of the valley of Ohio yields more easily to rot, than does that upon the east side of the Alleghany mountains. The fact is first doubtful, and if it exists, the difference must be in the same species, and not in the aggregate body of timber trees. In the states of Louisiana and Mississippi, oak, pine, and hickory, rots sooner than does the wood of the same genera in the eastern states; but to counterbalance this defect in part of the southern trees, the wood of the cypress, black locust, and catalpa, support the action of air and water equal to the timber of any trees in North America.

The state of Ohio, in addition to the forest trees, possesses a very rich shrubbery; in its forests are found many species of plums, haws, wild grape vines, whortleberry, spice wood, hazle, alder, blackberry, raspberry, and dewberry; with many others. The herbaceous vegetables are extremely numerous; many of them are valuable as medical plants, some as food, and many afford an ornament to the woods by their flowers. It does not comport with the design of this treatise to enter into any detail upon the general botany of any part of the country described. The names and local position of the timber trees are given, from their indispensable importance in the most necessary arts, practised by man.

The difference between the climates, east and west of the Alleghany mountains, is a subject upon which has existed a singular difference of opinion. It is also one that involves an inquiry of the first importance, as far as agriculture is concerned. The author of this treatise has long since been led to consider, contrary to common

received opinion, that upon the same line of latitude more cold was experienced west than east of the mountains. This deviation from general belief was not formed from theory, but an induction from his own experience. Facts have been adduced in various parts of this work, to show the very low temperature of the winters in the Mississippi valley, even upon the border of the Gulf of Mexico.

Many causes may be given why an idea, though erroneous, should be adopted, that the climate of the Mississippi basin was warmer than the Atlantic slope, but one will perhaps suffice; the stream of emigration has been southwest. Men from the New England states when removed into the Ohio valley, actually found themselves in a more temperate climate than that one from which they had emigrated; this circumstance very naturally led them to exaggerate the difference.

The following notices of the climate and seasons, are in considerable part founded upon the facts adduced in Dr. Drake's Cincinnati, a work much too little known.

From the floreal calendar given in the above cited work,* we have taken the liberty to make the following quotation: "these observations were made on plants growing in the valley of Ohio, and on the declivity of the adjoining hills, where the developement of vegetation is *four or five days earlier than at a distance of even a few miles north*. In the interior of the Miami country, this difference is so great as to attract the attention of all travellers, who in spring or autumn journey in that direction from Cincinnati. Between the valleys of Mad river and the Ohio, it is supposed to equal ten or fifteen days. The causes of the remarkable backwardness in the former situation, appears to be, in part, its higher latitude, greater elevation, and damper soil,"—and it might have been added, greater exposure to the north winds.†

It appears, from the same calendar, that peach-trees bloomed at Cincinnati the first week of April, that on the 12th of May maize was planted; June 4th, cherries began to ripen; July 4th, rye harvest commenced; 10th, wheat; 12th, black berries ripe; August 5th, peaches in market; September 20th, forest becoming variegated; October 25th, maize gathered; and at the end of the latter month, the deciduous trees leafless.

If this chain of facts had been collected from the ordinary course of the seasons near Pittsburg, the inductions would not be more applicable to that city, than they are as drawn from a place more than a degree of latitude farther south.

It is a subject worthy of remark, that vegetables are by far the most certain thermometer; and that inductions drawn from the effects of heat and cold upon tender plants, are the most satisfactory conclusions that can be made upon the phenomena of climate. Nothing but actual experiment can enable the human mind to form any reasonable opinion of the temperature of any given place. Amongst the deceptive apparent analogies between two or more given situations,

* Page 83.

† See page 25, 27, 31, 167, 172, and sequel of this Treatise.

none is so commonly used, and none so productive of error as similarity of latitude. The difference often perceived to exist between the temperature of two places, which to casual observation would have little or no local distinction, ought to teach caution to writers and observers on this subject.

It has been seen, when describing the rivers of the state of Ohio, that their streams appear to be precipitated from a high table land. When delineating west Pennsylvania and west Virginia, the same natural features will exhibit themselves. From which it is demonstrable, that the actual bed of the Ohio is much lower than the table land from whence the tributary streams of this river draw their waters. The actual difference in elevation has not been accurately determined. Dr. Drake supposes the extreme elevation of the central plains of Ohio, Indiana, and Illinois, to be about 1000 feet above the level of the water in the Atlantic; but there is good reason to suppose that those plains are at least 1200 feet above the level of the ocean. If Brownsville is 850 feet above tide water in the Chesapeake bay,* the apex of the adjoining hills being at least 400 feet higher than the level of the Monongahela at the latter town, must be 1290 or 1300 feet above the level of tide water.

The author of this treatise measured carefully the difference of elevation between the level of the Monongahela river, at the city of Pittsburg, and the surrounding hills, and found the difference about 460 feet. The fall in the river from Brownsville to Pittsburg, must be 50 or 60 feet. While engaged in measuring the elevation of the hills near Pittsburg, one fact appeared to obtrude itself at every operation; that was, that the apex of these hills, and indeed those of the whole country, west of the chestnut ridge, were very nearly equal; and that the whole region had once been table land, into which the descent of water had, in the lapse of ages, cut the valleys that now exist. This fact is also proved by the phenomena of corresponding strata, particularly of coal. The coal strata near Pittsburg maintain very nearly a level with each other, and were evidently once united; they are 340 feet above low water mark in the rivers that environ Pittsburg. Not only the coal, but all the other strata present marks of continuity. The course of the Ohio river from Pittsburg to the mouth, is gentle; except the rapids at Louisville, 22 1-2 feet in two miles. The entire length of the Ohio and Mississippi from Pittsburg to the Gulf of Mexico, is 2040 miles; which would yield, by allowing only 5 inches fall per mile, 850 feet as the elevation of low water mark at Pittsburg, above the level of the Gulf of Mexico; which sum added to 460 feet, produces 1310 feet as the entire elevation of the summits of the hills on west Pennsylvania and west Virginia. An abrupt descent, of more than one-third the whole depression, produces an immediate change in atmospheric temperature. In the low vale of Ohio, and in such places as Cincinnati, where plants are presented to a southern, and sheltered from a northern exposure, inflorescence will take place at very different seasons, and fruits must always be precocious when compared

* Drake's Cincinnati, page 62.

with vegetation in situations however near, which are exposed to the chilling effects of north winds. From these causes arise the local difference between flowering, "seed time and harvest," at Cincinnati, and 40 minutes of latitude to the north of that town, on Mad river. From the same cause, the entire table land from the northwestern side of the Alleghany mountains to the Canadian lakes, being open to the north and covered from the south winds, must necessarily have a colder climate than places on corresponding latitudes on the Atlantic coast.

Assuming vegetable life and the effects of frost upon rivers as the true criteria upon which to judge of the relative temperature of different places, it will be seen from the data given not only by Dr. Drake, but all other writers on the subject, that Cincinnati is more exposed to winter cold than Philadelphia, though the former place stands upon the globe 54' of latitude south of the latter. It has already been observed in this treatise,* that there exists an extraordinary discordance between the facts and inductions of writers on this subject; the following extracts will exhibit the correctness of this assertion.

"The piercing northerly winds that prevail during the winter in the Atlantic states, seldom affect the inhabitants on Cumberland river; *for they have no great mountains to the northward or westward.* The inhabitants of the Atlantic states are also subject to sudden changes in the atmosphere, arising from their vicinity to the ocean. The air that comes from the surface of the sea, *especially from the warm gulf stream in winter*, must be very different in its temperature from the air that comes across cold and high mountains; but the great distance between the Cumberland settlers and the ocean, as many great mountains intervene, effectually screens them against the bad effects of those sudden changes. Northeasterly storms never reach this country."†

The facts stated in this quotation are substantially correct, except the latter. Northeast storms are violent and frequent, even at Natchez. It certainly must excite some surprise to read in the same paragraph, that the warm winds from the surface of the gulf stream, should produce cold, and that an exposure to north winds, heat.

Mr. Stoddard, in his historical and descriptive sketches on Louisiana,‡ observes, that, "The settlements in that country, (now Missouri territory,) are between the 33° and 40° north lat. The winters among them are much more severe than in the corresponding latitudes on the sea coast. They generally set in about the 20th of November, and continue to near the last of February; though hard frosts, and even snow, are common in October and March. For three successive winters, commencing in 1802, the Mississippi at St. Louis was passable on the ice before the twentieth of December each year; and it was clear of all obstruction, with only one exception, by the last of

* See page 147.

† Morse's Universal Geography, page 524, sixth edition.

‡ Page 236.

February. In January, 1805,* the ice in that river rather exceeded twenty-two inches in thickness. There is seldom more than six inches of snow at the same time; but the severity of the weather at St. Louis, in latitude thirty-eight degrees twenty-four minutes north, is generally about the same as in the back parts of the state of New Jersey. The mercury frequently falls below 0; and the cold keeps it depressed as low as ten or fifteen degrees for several weeks during each winter.

If the cold in these regions in winter is greater than in the same parallels of latitude on the sea coast, the heat in summer bears a proportionate increase. We cannot estimate the degrees of heat by any regular thermometrical observations for any number of years.† But in the summer of 1805, a thermometer was suspended in a large drawing room at St. Louis, against a stone partition wall, and constantly in a current of air; and from the last of June to the first of August, the mercury frequently rose to ninety-six degrees, and frequently remained at that point several hours of the day. The heats in this quarter while they continue, are supposed to be more oppressive than those in the Mississippi territory; owing, perhaps, to the greater concentration of the rays of the sun in the deep and spacious valley of the Mississippi. They continue, however, only about two months in each year in upper Louisiana; whereas, they rage with violence for at least four months at Natchez.‡

Mr. Stoddard expressly gives his opinion in page 235 of his work, that the heats are greater in the Mississippi valley than on the Atlantic coast in similar latitudes, and then produces well authenticated facts, which demonstrate directly the reverse.

Mr. Volney entered the Ohio valley with an opinion of its comparative greater heat when contrasted with the Atlantic declivity, and without attempting to hazard a doubt of the correctness of the theory, enters into the following detail; the more material parts of which we have translated from the original as nearly literal as possible. We are the more assured of the indulgence of the reader, to the insertion of this article, as it is the base of the opinions held upon the climate of a very interesting portion of our country, by almost all foreigners, and even by many amongst the citizens of the United States.

“Behold one of those singularities in nature, that deserves the more attention, as I am uninformed of its having been described until this time with all its circumstances. For the principal fact I will borrow the words of Mr. Jefferson in his Notes on Virginia.”

* The history of the atmospheric changes of the year 1805 in Louisiana, is a striking commentary upon the routine of the seasons in that country. The author of this treatise was then at Opelousas; and can perfectly remember that at new year, 1806, that cotton, mullein, and tobacco were all in full bloom. The same was the case at Natchez, at the same time. The author received a letter from a friend at that place, dated about the 25th December, 1805, where in these facts were expressly stated.

About the 10th January, 1806, a very intense frost set in that destroyed every vegetable liable to destruction from cold; the ponds and stagnant part of creeks were frozen; the latter part of the winter was alternately wet or cold; the spring very backward, and the ensuing summer rainy.

† See page 235.

‡ Stoddard's Louisiana, page 236.

* It is remarkable, that proceeding on the same parallel of latitude westwardly, the climate becomes colder in like manner as when you proceed northwardly. This continues to be the case till you attain the summit of the Aleghany, which is the highest land between the ocean and the Mississippi. From thence, descending in the same latitude to the Mississippi, the change reverses; and, if we may believe travellers, it becomes warmer there than in the same latitude on the sea side. Their testimony is strengthened by the vegetables and animals which subsist and multiply there naturally, and do not on our sea-coast. Thus catalpas grow spontaneously on the Mississippi, as far as the latitude of 37° , and reeds as far as 38° . Parroquets even winter on the Sciota, in the 39^{th} degree of latitude. In the summer of 1779, when the thermometer was at 90° at Monticello, and 96° at Williamsburg, it was 110 at Kaskaskia.*

"As a traveller," says Mr. Volney, "I can confirm and develope the assertion of Mr. Jefferson. In the *trajet*, that I made in the summer of 1796, from Washington on the Potomac to Vincennes on the Wabash, I collected notes from which the principal results are these.

"July 10th—At Monticello, Mr. Jefferson's seat, wheat-harvest commenced on the lower slopes of the southwest mountain, whilst on the opposite side, where exposed to the northwest, towards Charlottesville, wheat-harvest did not commence before the 12th or 14th of the month.†

"July 10th—Harvest at Rockfish gap, on the summit of the blue ridge, 1150 English feet high; two days sooner, harvest commenced in the valley of Staunton, 230 feet lower.

"July 12th—Harvest on Jackson's mountain, 2200 feet above the level of the Atlantic ocean.

"July 20th—Harvest on the Aleghany mountain, in places elevated 2600 feet above the ocean.

"It is seen that in this ascending line, harvest is late in proportion to the elevation of the various places.

"In descending the western slope of the Aleghany mountains, into the low plain of Green Briar, I learned that harvest had commenced on the 15th of July.

"In the valley of the Great Kenhawa, at the mouth of the Elk river, I found harvest began on the 6th July, and on the 11th at Gallipolis, a French colony on the Ohio: and at Cincinnati, situated more to the north, on the 15th of July.‡

*Notes on Virginia, page 114.

† The difference given here of 12 or 14 days, in opening of harvest, in so short a distance, appears incredible; but if only partially correct, affords a strong refutation of the opinions of its author, and a confirmation of the theory laid down in the pages of this treatise. *Shelter and exposure* seems to have presented their effects to Mr. Volney at his outset, and ought to have led him to doubt a hypothesis, that would suppose, that in the Ohio valley, the same causes that operated so remarkably at Monticello would produce reverse effects at Vincennes.

‡ It would not be credible without his own testimony, that Mr. Volney could, with the facts before him, suppose that the climate was comparatively warmer in the Ohio valley than on the Atlantic declivity. Between Monticello and Cincinnati, there is a difference of latitude of about one degree, and following

"I did not find wheat at Vincennes, on the Wabash; the inhabitants preferred maize, tobacco, and cotton, productions that mark a warm climate.*

"The 1st of July the inhabitants of Kaskaskia had commenced their harvest as at Monticello.

"The second line that I traced from the Aleghany mountains, westward, does not present apparently the same regularity of result as the preceding line from the sea shore to the summit of the mountains. The difference, no doubt, proceeds from the diversity of the level, the exposures, and even of the latitudes, which are more varied in the latter than in the former.

"If, for example, harvest is later at Cincinnati than at Galipolis, it must be because the former place is more to the north, less sheltered from north winds, and less open to the south, than the latter town; and if the valley of Kenhawa presents a harvest more precocious, though more elevated than Galipolis, the difference must arise from the valley of the Kenhawa being enclosed by mountains, the effect of which is to confine and concentrate the heat, a fact that I perceived myself, having found the heat here more intense than in the adjacent country: and in our gardens we have the proof of this combined action in many respects; as our espaliers ripen the same species of fruit 8 or 10 days earlier or later, according as they are exposed to the south, to the rising or setting sun, or still more according as they are sheltered from cold winds, or struck with the reverberation of warm air from other walls. It is not less true also, that the level has great effect in any given line, and that there is a remarkable coincidence in the time of harvest (July 1st), between Monticello and Kaskaskia, situated under the same parallel, and on I presume nearly equal elevation.

"Nevertheless, I am far from denying, that there exists in the west, several phenomena of temperature and of vegetation, that cannot be explained by either the comparative elevation or exposure.

"In the first rank of these phenomena is the circumstance, that for some years botanists have observed, and daily experience has confirmed, that on comparing places east and west of Aleghany mountains, where trees and plants grow spontaneously, they have discovered that places in the basin of the Ohio and Mississippi were warmer by a difference three degrees of latitude, than those east; and that trees and plants whose organization demands a warm climate, and shorter and less severe winters, is found three degrees of latitude

Mr Volney's floral calendar, 15 days in the relative commencement of harvest. Much uncertainty must rest upon any deductions drawn from the phenomena of only one year; but as far as dependence can be placed upon the observations made by this author, and the fidelity of his relation of facts has never been doubted, Cincinnati must be placed in a climate colder than Monticello by at least a difference of three degrees of latitude. Dr. Drake gives July 4th, as the commencement of harvest at Cincinnati, and even that difference, though it lessens the effect, yet leaves a change much more than equal to the real difference of latitude.

* Tobacco has been one of the common crops and staple commodities of Virginia, as far north as the 39th degree of north latitude, ever since the first settlement of the country. Maize is now cultivated in New-Hampshire.

farther to the north, in the west of the Alleghany mountains, than on the same line of latitude on the Atlantic coast. Cotton that succeeds at Cincinnati and Vincennes on the 39° N. lat., cannot be cultivated north of 35 or 36° N. lat. in the Carolinas. It is the same with the catalpas, the sassafras, pawpaw, and paccan or Illinois nut,* and many other trees and plants, the detail of which would demand more knowledge than I possess on the subject.

"This kind of proof is irresistible; and it is otherwise supported by the phenomena of each particular season. In all my routes on the Ohio, and in my different stations in Kentucky, at Galipolis, at Limestone, Lexington, at Louisville, at Cincinnati, and Vincennes, the information I have been able to collect has uniformly established the following facts.

"That winter only commences about its own solstice, (21st—22d December,) and the cold only exhibits its effects in the forty or fifty following days; the term is not fixed or uniform in its duration; it has also intervals of temperate and even warm days. The thermometer does not descend below 5° or 6° degrees of Reaumur, from 16° to 20° of Fahrenheit, below zero. The frosts which appear and disappear a few days in October, returns towards the end of November to again disappear. The intense frost, I say, only commences towards the beginning of January. Brooks, small rivers, and stagnant waters, then freeze; but rarely remain frozen above from three to fifteen days.

"The winter of 1796-7 is considered without example, when the mercury fell in Fahrenheit's thermometer 15° below zero;† and also when the Alleghany, Monongahela, and Ohio rivers were frozen from the 20th of November to the 30th of January,‡ sixty-five days.

* Cotton cannot be cultivated to any advantage in the south part of Kentucky, in lat. 37° North. The catalpa-tree is at this moment growing in open air, in the streets of Brooklyn, near New-York; and in the state-house yard in Philadelphia there are several trees of this species, one of which is two feet in diameter. The sassafras and pawpaw both grow upon the Delaware, the former to the size of a considerable tree; the latter is in all places a shrub.

† The author of this treatise resided at Wheeling, on the Ohio, in 1796-6, and on the Monongahela, near Brownsville, 1796-97. The latter season was indeed severe, all the rivers in the country were completely frozen, but far from being unexampled in the country; in the beginning of 1792, the Ohio was frozen at Wheeling upwards of forty days, in such manner that loaded carriages passed in perfect safety from Zane's island to the main shore where the town now stands. The author can perfectly remember having heard the frequent remark, that the quantity of snow which fell in the latter year, was the greatest known since 1780 until that season.

‡ The rivers in west Pennsylvania and west Virginia seldom close so early as the middle of December; but as far south as the Great Kanbawa they are, five winters in six, completely frozen. The deciduous trees are denuded of leaves before the end of October; snow is frequent in the latter month, but rarely if ever fails to fall in November. Remarkable exceptions are frequent. Great part of the month of February, 1799, was so very mild that snow disappeared, and peach buds began to swell about the 20th of the month; and on the 6th of March of the same year, the Monongahela was frozen over at Pittsburg, and the trees exhibited very little foliage or inflorescence on the 20th of May.

"The Wabash freezes almost annually, but only from three to fourteen days. In all Kentucky and the basin of Ohio, frost remains on the ground, ordinarily, only from three to fifteen days, and in the course of January there is frequently days that are really warm, and when Fahrenheit's thermometer rises to from 50° to 60° , with southwest winds and a pure and brilliant sky. Spring brings with it rains and sudden showers, with northwest and northeast winds. Forty days after the vernal equinox, violent heats commence. These heats are in full force during the sixty or seventy days that follow the summer solstice; the thermometer stands at from 26° to 27° of Reaumer, (90 — 95 degrees of Fahrenheit.) During the whole of this time, storms occur almost daily on the country near the Ohio: these storms produce a heavy heat which is not tempered by the rain. Sometimes rains are brought by south and southwest winds, at other times they are produced by the evaporation of the water of the river, and from the vapours of the vast forest that every where cover the adjacent country. The rain falling in torrents, refreshes but for a moment the parched soil, and the heat of next day forcing it to ascend, changes it in the morning into a thick mist, and finally into clouds, thus continually renewing the electrical process* of the former day. The temperature of the water is raised to, from 64° to 66° ; the nights are calm, and it is not before 8 or 10 in the morning, that a light breeze rises from the west or southwest, and which ceases about four o'clock in the afternoon.†

* Mr. Volney, according to his own account, resided in this region only a very short time, and evidently collected his facts from persons who were very unfit to give the requisite information, or who must have misunderstood his views. We recollect hearing a gentleman in Washington, Pennsylvania, using a remark respecting this respectable traveller that we believe to be strictly correct, because corroborated by others, and which will tend to explain clearly the cause, why a man so able as Volney certainly was to observe natural phenomena, should detail established error, rather than develop the ordinary laws of the climate of places through which he travelled.

This gentleman observed, that though Mr. Volney understood the English language perfectly well, he spoke it in such a manner that his expressions were frequently misunderstood; and that his method of collecting information was, by putting set questions to particular persons, and noting the answers. It was his misfortune to set out with opinions formed from theory, and of course his questions naturally tended to establish those opinions, by eliciting answers in conformity to the wishes of the interrogator. It may be observed, however, as singular, that this traveller evinces more accurate knowledge of the geography of the United States, than any European whose works have reached our hands. There can scarce be a doubt, that if he had passed the Alleghany mountains into the valley of Ohio, without ever having read one word upon the country, that his indications would have been infinitely more in conformity to his facts, than they were as published, disguised by hypothesis.

† From such an account we would be led to consider the climate of this region as at least regular, but from an experience of upwards of twenty years residence in the country, we would feel inclined to give the seasons any general character, rather than that of regularity. In fact, from the city of Pittsburg to the city of New Orleans, inclusive, any, or all places, will present two successive years, whose meteorological changes will differ almost as much as would those changes in any given year at the local extremes we have mentioned. Every person, the least capable of preserving the fruits of experience, must accede to the truth of the foregoing observation.

"In every season the dominant wind is southwest, or the current of air that descends the channel of the river Ohio, coming from that of the Mississippi, where the course of this wind is south, from the gulf of Mexico.* I found this wind warm and stormy, at my entrance into the valley of the Kenhaway, where no doubt it raises the temperature by arresting the heat at the foot of the mountains: it changes its direction, following the curves of the Ohio river. This wind is sometimes thought west, or south, but is in reality always the same current of air, and prevails five-sixths parts of the year, leaving to the other winds only one-sixth. It dominates over Kentucky, but does not there produce the same effects; because the Ohio valley, in a width of 15 or 18 miles, is moistened by copious rains; the interior country is parched with violent drought, that continues sometimes for three months together; and the farmers have the vexation to behold from the summit of the hills which border this vale, a sea of mists and rain whose skirts touch, but never pass this border.

"At the autumnal equinox, rain comes with northeast, southeast, and even northwest winds. The coolness they superinduce is the forerunner of frost. Autumn is a season of mild, serene weather, and surpasses the three other seasons in pleasantness; because, in all North America, there is no season answering to spring.†

"Such is the climate of Kentucky and of all the basins of Ohio.‡ We must advance far northward to find any remarkable changes, and particularly to find a harmony with the Atlantic coast. Even at Nia-

* This observation is in great part correct, and is the only phenomenon that presents itself in defence of the superior warmth of the air in the basin of Ohio. This current does, no doubt, contribute to mitigate the cold of winter, and augment the heat of summer; but its effects are more than counterbalanced by a far greater exposure to the north and northwest and northeast, than to the south or southwest.

† What precise idea Mr. Volney attached to spring, it is very difficult to determine. If by spring is meant the vernal season of renewal of vegetation, perhaps no country has so protracted a season of spring as the middle states of the United States. From the first budding of the elms, maples, and willows, often in March, to the full development of the foliage of the woods towards the end of May, three months, or one-fourth the year elapses. That the peculiar character of an American spring may differ from that of France, we can readily believe; but we are also disposed to consider that every season in every distant country has an appropriate character, that distinguishes it from the same nominal season in other places.

‡ The radical fault of nearly all accounts hitherto published of this very interesting country, is, giving not only a general, but even a uniform character to a space so extensive, and in its various parts so extremely dissimilar. The extent and position of the Ohio valley is already given, from which it will appear, that the northern and southern extremes must present seasons differing widely in temperature. A very cursory review of the attending map will serve to demonstrate the great inequality in the surface of this extensive region. Enclosed by mountains on the east, southeast, and in great part on the south; entirely open to the north, northwest and west, and cut into deep channels by its numerous rivers, few countries on earth can exhibit more varied or more distinctive features. Applying any general epithet to such an expanse must lead to error.

The quality of the local surface and soil is also varied to almost infinity. No description of land from rugged mountains, whose summits are upwards of 2000 feet above the level of the Atlantic ocean to the naked plains of Wabacha

gara, it is still so temperate, that cold continues only two months with any considerable severity; notwithstanding that this place is the most elevated part of the Plateau, or table land. This circumstance totally deranges the rule formed from the comparative levels.

"The descriptions that have been made to me of the cold of Vermont, of New-Hampshire, does not correspond with the seasons in Genesee;* but rather with that of Philadelphia, 3° farther south. It has been remarked, as a singular circumstance, that, in the latter town, frost occurs in every month of the year, except July; and that on the western side of the mountains, a similar circumstance does not take place south of the village of Oneida in Genesee,† at the 43° north latitude; whilst at Albany, east of the mountains,‡ it freezes every month in the year, and neither peaches or cherries can ripen.

"Before proceeding further in this investigation, it will be necessary to add some observations, and to observe some preparatory to a more complete developement of the assumed theory.

"1. It results from the comparison I have presented, that to measure accurately the degrees of temperature existing in different parts of the United States; two vast thermometrical scales must be applied to the whole country, crossing each other at right angles. The one placed along the meridian line, having its maximum of cold towards the pole, say on the river St. Lawrence, and its maximum of heat towards the tropics, say in Florida; between the two extremes, the heat increases or decreases regularly, according to the latitudes, the level and exposure being equal. The other scale placed transversely

and the rich alluvial bottoms of Ohio river, but what must be passed in a survey of the country under review.

The productions of the earth are not less varied than its surface; the numerous species of vegetables and minerals that have been provided by nature for the use of man in this unequalled valley, justly claims the attention and admiration of the traveller and geographer. It may be also remarked, that amongst the mineral products, those most absolutely necessary are most abundant; salt, iron, coal, and carbonate of lime. It is also rendered possible that to those will be added gypsum; and that the three former exist in much greater quantity than has been generally thought.

* It would be singular, indeed, if the climate of Genesee was similar to that of either Vermont or New-Hampshire. The greatest part of the two latter places lie north of the former. Genesee is a level country in the vicinity of two large lakes; Vermont and New-Hampshire are mountainous. Proximity to water tends to equalize the temperature of the circumjacent air; consequently, the climate of places near the Canada lakes, are, in every other circumstance, equal, more moderate in winter than of places more remote.

† Instances have been known to occur of frost at Philadelphia, even in July, as was the case in that month, 1816; but the author of this note has been witness to a similar cold at the same season of the year at Washington in Pennsylvania, and what will seem perhaps more extraordinary, beheld cotton destroyed by frost at Natches September, 1804.

‡ Albany is in part west of all the mountains, and only 1200 feet below the extreme elevation of the central table land. Except the space occupied by the North or Hudson river, Albany is covered by two chains of mountains from the south winds. Catskill mountains, near 3000 feet high, is in full view from Albany to the southwest. As to the circumstance of cherries and peaches not ripening at Albany, the statement is totally incorrect; few places in the world where those fruits are more abundant than at Hudson, Athens, Rhinebeck, ALBANY, Troy, and Lansingburg.

to the former, from east to west, following a line of longitude, this latter compound instrument would be in effect a double thermometer, of two branches, with a common bulb resting upon the summit of the Alleghany mountains. Each branch would exhibit its maximum of heat upon either the coast of the Atlantic ocean, or upon the Mississippi; and the degrees of heat measured by either branch, would be in proportion to the elevation or exposure. It is only by strictly attending to these complicated rules that a good table can be formed of the temperature and vegetation of the United States."*

The sketch of a general table of the American climate made by a society at New-York is ingenious, but to be accurate the above rules alone ought to be adopted.

2. The difference of climate between the east and west of the Alleghany, is attended also with two material circumstances, that I believe have hitherto been overlooked. The first is, that southward beyond 35 or 36° N. lat., the difference of temperature observable in the Ohio valley ceases, and that the climate of Georgia and West Florida, from the Mississippi to the mouth of Savannah river, is substantially the same: And farther, that the chain of the Alleghany and its curve about the foregoing latitude, forms the real limit of the difference.

The second circumstance is, that the relative excess of heat in the interior, ceases almost instantly between 43° and 45° N. lat., towards the large Canadian lakes. You have scarcely passed the southern shore of Lake Erie, when the climate becomes cold with astonishing rapidity. At Detroit the temperature is similar to that of its parallel Niagara; but at Lake St. Clair, the inhabitants find the frosts much longer and more severe, than at Detroit. The latter small lake

* The above observations are substantially correct, and, in reality, contain the entire philosophy of this subject; but they also afford another singular instance how far our author sacrificed his own experience to system.

Adopting his own ingenious thermometer, and applying it in the solution of the problem we are investigating, the result must inevitably prove directly the reverse of his hypothesis. Suppose the instrument laid upon the 38th degree north latitude, and 2 degrees west longitude from Washington city, the bulb would rest a short distance from Staunton in Virginia, the west branch would traverse nearly the centre of the Ohio valley.

Four general cases determine the difference of temperature between any two given places on our globe.

1°. Difference of latitude.

2°. Difference of elevation.

3°. Exposure to particular winds.

4°. Proximity to, or remoteness from, large bodies of water.

It may be remarked as singular, that Mr. Volney's climatic thermometer would necessarily exhibit, in opposition to his own previous opinion, that the valley of Ohio was

1°. Equal in latitude to a very extensive range of the Atlantic coast.

2°. Elevated above that coast; the bottom of the Ohio 800, and the apex of the hills 1200 feet above that coast.

3°. Exposed to the northeast, north, northwest, and west winds, and covered by mountains more than 2000 feet high from the south and southeast.

4. Remote from the warm air of the gulf stream, or the general equalising effects of the water of the ocean upon air.

The assertion may be emphatically made, that, without regarding these primary principles, no rational ideas can be formed on ours, or any climate.

is frozen annually, from November to February; the south and south-west winds that warm the air in the vicinity of Lake Erie, become rare at Lake St. Clair. No other fruits can be brought to maturity except apples and winter pears.

At Michillimackinac, two and a half degrees farther north, $45^{\circ} 30'$ N. lat., observations made in 1797, under the direction of General Wilkinson,* show, that from August 4th to September 4th, the thermometer, in several places beyond Lake St. Clair, never was higher at noon than 70° , and that in the morning and evening it often sunk to 46° ; which makes a colder atmosphere than at Montreal in the same parallel.

Those facts fully accord with the general result published by Mackenzie, in his relation of his interesting voyages to the west and northwest of North America. I had the pleasure to be made acquainted with this estimable traveller during my residence in Philadelphia, and to receive from him much useful information on the subject of my researches. One of his companions, Mr. Shaw, also, had arrived from a thirteen years' residence in the most remote posts of the fur trade. This gentleman had also the goodness to reply to my questions; and the result of their united information establishes the following facts:

That in advancing west of Lake Superior to the Stony or Chippewan mountains, as far as 72° N. lat., prevails a climate which in severity can only be compared to that of Siberia. That the surface of the earth is generally flat and naked of timber, or if any trees do exist, they are rare and stunted. The country is covered with lakes, swamps, and a prodigious number of interlocking water-courses, and incessantly swept by violent and frozen winds, from the north, and, more particularly, northwest. Above 46° N. lat., the earth is frozen throughout the year. At several stations of the fur trade, between 50° and 56° N. lat., wells, though very necessary, cannot be sunk; that Mr. Shaw himself made the attempt at St. Augustine, six leagues from the mountains, and though the attempt was made in July, the labourers found the earth thawed three feet; but below that depth frozen, and becoming more solid in descending, they were constrained to abandon the undertaking twenty feet beneath the surface.

The correctness of these facts cannot be doubted from the respectability of the witnesses, and from the credible support received from other testimony. Robson, an English engineer, who, in 1745, built Fort Wales on Hudson's Bay, 59° N. lat., recounts, with surprise and candour, that wishing to sink a well in the month of September, he found the ground thawed three feet, by the recent heat of summer; but under that superstratum of earth, lay another of eight inches deep, frozen as firm as a rock. Then commenced a stratum of dry loose frozen sand, in which the workmen could find no water, because the moisture near the surface was rendered solid ice, and prevented the water from penetrating below the superficial bed of earth thawed by the recent summer heat.

Edward Umfreville, an agent of the Hudson Bay Company, from

* Medical Repository of New-York, Vol. I. page 599.

1771 until 1782, a sensible and correct observer, attests, that the earth in these regions even in the heat of summer, when the heats are for a term of four or five weeks very intense, does not become thawed more than four English feet in depth, where the land is cleared of timber, and not more than two where the surface is shaded by dwarf juniper and pine trees, the only timber in the country.

It is from all these facts made evident, that beyond a certain latitude, the climate of the interior of North America is not less cold than on parallel latitudes upon the Atlantic coast. The mean term of the change is about 45° or 40° N. lat., assuming, as a natural limit, the Canadian lakes, but more particularly the Algonquin mountains, confining the warm climate of the west to nine or ten degrees of latitude, and also *encircled on three sides by other mountains*. No doubt but that the presence of these mountains contribute in part to produce the difference found to exist between the climates north and south of their summits: But what is the primary cause? From whence proceeds this really singular geographical phenomenon? Behold the problem solved! a comparison of many facts and circumstances, have led me to consider as the principal agent, a generally prevailing current of air in the basin of the Mississippi; which current differs from those of the coast of the Atlantic ocean. I think myself able to furnish to my readers the means of forming their judgment, by developing the entire system of the various currents of air annually prevailing in the United States.

Mr. Volney then enters into an investigation of the courses, and causes of the winds of the United States, commenced with the expression, "that in Europe, particularly in France and England, the inhabitants complain of the inconstancy of the winds, and of the sudden and violent changes produced in the atmosphere through their influence; but that the variations in the air in Europe, were nothing when compared with those in the United States."

Data have never yet been collected to establish the degree of correct comparison between the climate of western Europe and that of any part of America. An observation is in the mouth of nearly all men who speak on the subject, coinciding with Mr. Volney, that the inconstancy and contrasts of atmospheric air are much greater in America than in Europe; but a perusal of several articles in Rozier's *Agricultural Dictionary*, would serve to render this assertion at least doubtful.* That the difference has been exaggerated, to at least ten times its quantum, we have no doubt. A real difference in climate does exist, between western Europe and eastern America, of about ten degrees of latitude; but the corresponding climates exhibit very nearly similar phenomena. The south of France and the southern parts of the United States possess a remarkable coincidence in the aspect of their respective local positions, as also in the general character and daily temperature and change of their climates.†

Disquisitions on the winds of any country are an idle speculation, if not founded upon a very detailed knowledge of the ranges of moun-

* See page 30 of this Treatise.

† See page 167 of this Treatise, note.

tains, and their compactness and elevation; with the courses of rivers; the width and depth of their particular valleys; and with the uniformity or asperity of the surface of the various basins.

It cannot be deemed presumption to assert, that this particular topographical knowledge has not been evinced by any European writer upon the United States. Most of them were men whose minds were rendered unfit, by national prejudice, to enter into a physical investigation; others came to abuse; one or two to praise; and few indeed have resided long enough in the country to form opinions of the people or climate from long observation, or comparison of well arranged facts.

The following sketch of the outline of the Ohio basin, will enable the reader to perceive the true causes, why in reality its climate is necessarily more severely cold in winter, and also, why in some instances in summer, the condensed heat is greater than in most places on the coast of the Atlantic ocean.

The extent and interior structure of the two basins of Ohio and Illinois have been descanted on;* it remains to delineate their outline, and to show, from their exterior, the causes that produce the peculiar constitution of climate in this singular region.

The Alleghany mountains ranging from N. E. to S. W. skirts along the S. E. part of the Ohio valley. Though not actually the boundary of the basin,† and not very elevated, this chain forms a very effective barrier against the warm winds of the Gulf Stream. The Alleghany mountains are remarkable for their compactness, running in collateral ridges; there exists from the 42° to the 34° N. lat., no absolute interval. Where one ridge is cut by a river, the opposite one is a solid wall, and all are covered with a dense forest to the summit. This character becomes more distinctive, advancing southwest, and is most prominent where the influence of such a mass of rocks and woods would produce the greatest effect; that is between 34° and 36° N. lat. At 34° N. lat. may be considered the nucleus of the whole mass of mountains. About 34° N. lat. the Alleghany turns almost abruptly to the west, and imperceptibly declining in elevation, finally disappears at 14° W. longitude from Washington city. Cumberland mountain is the same chain that first appears near Angelica in the state of New-York, and which traverses Pennsylvania by the name of Chestnut ridge. In Virginia, this chain is known by various appellations; to the south of the Great Kenhawa, it assumes the name of Cumberland, by which term it is known on the southwest part of Virginia, and southeast of Kentucky. On entering Tennessee between Cumberland and Clinch rivers, Cumberland mountain first turns S. W. by W., and about fifty miles within the state, assumes a western range, very nearly along the 36° N. lat. Though, perhaps, not more than 700 or 800 feet elevated above the table land of the Ohio valley, this minor chain does not terminate until reaching west of Tennessee river, upon the border of the Mississippi alluvion.

That part of the Alleghany mountain which rises south of Tennessee river, continues west-northwest from the northwest part of

* See page 187. † Page 198.

Georgia, through Alabama territory and the state of Mississippi, until within thirty or forty miles of the Mississippi river, it terminates in high broken ridges. West of the latter river, at $36^{\circ} 30'$ N. lat., a ridge of hills reaches its bank near Cape Girardeau, by an immense precipice of limestone, upwards of 400 feet high; between which and the western extremity of Cumberland mountain, is an interval of about 80 miles. Very nearly a similar distance intervenes between the western termination of the Alleghany, and the eastern elongation of the Masserne mountains, south of Arkansas river.

Both the Masserne mountains and the chain of hills which reaches Mississippi near Cape Girardeau, are continuous ridges emanating from the spurs of the Chippewan.

A very striking feature distinguishes, not only the hills and mountains east of the Mississippi from those of the west, but affords a strong contrast between the entire physiognomy of the two regions; that is, the dense and unbroken forest that clothes the former, and the open naked prairies that compose the far greater part of the surface of the latter. This difference accounts satisfactorily for the remarkable change of climate between the border of the gulf of Mexico contiguous to Mobile bay, and that found west of the Mississippi river.

Mr. Volney states, that south of 35° and north of 45° N. latitude, the climate of North America equalizes from the Atlantic ocean to the Chippewan mountains. How far this position is correct in the north section, we cannot judge from personal knowledge; but upon the south section actual experience enables us to pronounce it incorrect; and we have shown why such a uniformity cannot exist.

A review of the attendant map will exhibit the real width of the proper valley of the Mississippi below the mouth of Ohio; and the very confined range of the south winds from the gulf of Mexico into the basin of Ohio.

Mr. Volney has given a map of North America, upon which are marked the course* of the winds from the tropics over the gulf of Mexico, and their final distribution over the continent. Such an artificial theory of American winds, must excite some wonder in the mind of any person who has resided a number of years upon the north border of the Mexican gulf, where the effects ought to be most in unison with the hypothesis, and in harmony with each other. The late Mr. William Dunbar, who resided upwards of thirty years near Natchez, and who observed the phenomena of the atmospheric changes in the country with skill and attention, gives, in substance, the following as the routine of the seasons.

Mr. Dunbar, after recounting the phenomena of the great sleet and snow storm, at Natchez, in the end of January and first of February, 1800,† and other meteorological changes of that year, expressly states, that on the 12th of December the thermometer was down at 12° .

The remarks of this gentleman, on the winds and weather of that country, deserve to be better known than they are; we shall therefore transcribe them entire.

* See pages 31, 83, 139.

† See page 78 of this Treatise

"It is with us a general remark, that of late years the summers have become hotter, and the winters colder, than formerly. Orange trees, and other tender exotics, have suffered more in the neighbourhood of New Orleans, within these four or five years, than before that period; the sugar-cane, also, has been so much injured by the severity of the first of the two last winters, as greatly to discourage the planters, whose crops in many instances have fallen to one-third, or less, of their expectations. In former years I have observed the mercury of the thermometer not to fall lower than 36° or 27° ; but for a few years past it has, generally once or twice in the winter, fallen as low as from 17 to 20 deg., and on the 12th December, 1800, as above noticed, it was found sunk to 12 deg.,* which has hitherto no parallel in this climate; indicating a degree of cold which in any country would be considered considerable, and probably may never be again produced by natural means in lat. $31\frac{1}{2}^{\circ}$.†

"As this apparent alteration of climate has been remarked only for a few years, and cannot be traced up to any visible, natural, or artificial change of sufficient magnitude, it would be in vain to search for its physical cause. Dr. Williamson, and others, have endeavoured to show, that the clearing, draining, and cultivation extended over the face of a continent, must produce the double effect of the relaxation of the rigours of winter, and an abatement of the heats of summer; the former is probably more evident than the latter; but admitting the demonstration to be conclusive, I would inquire whether a partial clearing, extending thirty or forty miles square, may not be expected to produce a contrary effect, by admitting, with full liberty, the sunbeams upon the discovered surface of the earth in summer, and promoting, during winter, a free circulation of cold northern air.‡

"The winds of this country are extremely variable in the winter season, seldom blowing above three days, successively, from the same point. *The northwest wind brings us the severest cold.* It may be considered a general rule, during winter, that all winds blowing from the east of the meridian bring rain, and those from the west, dry weather; the east and southeast winds are most abundantly charged with moisture, as the opposite points are always the driest; the northeast winds, during their season, are moist, chilly, and disagreeable; but seldom prevail for any length of time; the northwest wind brings (though rarely) sleet or snow.§ After two, three, or

* The author of this treatise resided from the month of Sept. 1799, and all the year 1800, on Pine Ridge, eight miles north of Natchez, and was witness to the severe sleet storm of January and February, and the intense cold of December, 1800. During the sleet storm the wind was from northeast.

† As far as its effects were exerted upon vegetables, and upon stagnant waters, the frost of February, 1807, and that of December, 1814, must have been, each, at least as severe, if not more intense, than that of December, 1800.

‡ The boundless (excepting the respective seas) expanse of prairie in Louisiana, affords a complete support to the conjecture of Mr. Dunbar; and this naked surface, extending northwest of the Ohio and Mobile basins, exposes those places to the severe cold annually experienced in lat. 30.

§ The sleet storm of 1800, came with a northeast wind, as has been noted; that of 1807, with a northwest wind.

four days of damp, cloudy, or rainy weather, it suddenly clears up with a cold northwest wind, which blows frequently with great force during the first, and sometimes part of the second day after the change, the nights being generally calm; after a like period of fair weather, of which the two first days are clear and freezing, and the other two fine, mild, and agreeable, with a morning's heavy frost, it revolves again into the same circle of damp and rainy weather. This may be considered as the general revolution of the winter season, but with many exceptions. The frequent and rapid changes in the state of the weather during the winter, in this climate, furnish an excellent opportunity of verifying the vulgar opinion, of the moon's pretended influence at her conjunctions, oppositions, and quadratures; but truth compels me to say (what probably may be said of many similar persuasions*) that after a continued and scrupulous attention to this object, I have not discovered any such regularity of coincidence, which might justify the reverence with which those traditional maxims are at this day received, by all those whose minds are not expanded by the lights of philosophy.

"With the month of February our spring season may be said to commence, and southerly winds prevail, as if propitious nature was inclined to facilitate the operations of the husbandman, by carrying off the superabundant moisture, with which the surface of the earth is drenched, after the winter rains. This salutary effect is much more apparent on the flat lands of lower Louisiana than with us.

"As the spring and summer advances, the winds blow chiefly from between southeast and southwest, with variations from all parts of the compass. During the hot season the winds are frequently remarked to follow the progress of the sun; being found at northeast or east in the morning, and shifting round, die away in the evening at south-southwest.

"Before the close of November, we are reminded of the approach of winter by a few cold mornings and evenings, and sometimes nipping frosts, which exhibit their destructive power, first, in the valleys, by killing tender plants, while those on the adjoining hills retain, some time longer, their bloom and verdure. This effect is to be accounted for by the greater specific gravity of the condensed air, which runs off at all sides from elevated situations into the nearest valleys, there forming a mass of great extent, while the hills are supplied with air less dense and warmer, from a superior stratum of the atmosphere. The influence of this cause is so great, at the first approaches of winter, that a difference of 10° of Fahrenheit's scale, has been noted at the short interval of three miles in the direction of east and west: one position overlooking the great valley of the Mississippi, thirty miles wide, while the other was in the interior, environed by forests. On the morning of the 13th November, 1799, the thermometer stood, in the first situation, at 42° , and in the latter at 32° .†"

* Superior temperature of the Ohio basin, for instance.

† Transactions of the American Philosophical Society, vol. vi. page 43, and Sequel.

As far as a residence of sixteen winters, in the Mississippi territory and lower Louisiana, can enable the author of this treatise to judge, Mr. Dunbar's observations are accurate, and, if adopted as criteria, must confirm what has been already stated, that the winds of the Mississippi valley are too variable to produce a general amelioration of climate, so far north as the basin of Ohio. Mr. Dunbar also records the fact, that the northwest winds exert their influence as far as Natchez.

Respecting the destruction of vegetables by frost, the cause assigned by Mr. Dunbar produces the greatest part of the effect; but there is another cause that must be very influential in such countries as that near Natchez; where the extremes of sterility and fertility often approach within a few yards. In the rich low grounds the juices of vegetables, particularly cotton, are so abundant as to aid the decomposing powers of frost.

The fact mentioned by this respectable author, of the difference of temperature between the sheltered high lands, and the exposed lowlands, renders the correctness of the idea at least doubtful, that clearing lands tend to ameliorate climate. Mr. Dunbar has entered his own veto against this conclusion; and well he might, as every phenomenon in the country where his observations were made, was in opposition to its adoption. And no country can be more completely suitable for satisfactory experiment on this very interesting subject.

This picture of the variations in the air, to which we have been for many years familiar, is in all its parts correct, and proves the influence of the northwest winds in places far south of the basin of Ohio. The farther west the traveller advances from the Mississippi river, the more southern will he find this northern influence. The vast prairies of North America reach from the gulf of Mexico to the Frozen ocean, a distance of forty degrees of latitude, and following the obliquity of their course, near three thousand miles. Part of this great grassy expanse is protruded into the Ohio basin, and reaches to the south side of lake Erie. Rising from the surface of the Ohio and Mississippi rivers, and from that of the Canadian lakes, the country rises to the northwest into high table land, over which the winds have an uncontrolled motion, carrying with them to the foot of the Alleghany mountains, the refrigerating particles collected from the dreary plains so emphatically described by Mr. Mackenzie and others. It is by the power of this frozen current that the Mississippi is so often frozen at St. Louis in December, and which render the Ohio river unnavigable two months of each year, almost to the mouth. We are led to believe, that advancing west from the Alleghany mountains, the intensity of the cold increases, and that the seasons are at St. Louis more rigorous than at Cincinnati, though the former lies 30 minutes of latitude south of the latter. The peculiar local position of Cincinnati afford a double advantage, sheltered from the north, and exposed to the south; the position of St. Louis is directly the reverse, but the frequent freezing of so rapid a river as the Mississippi, and at such an early season of the year, evinces a general intensity of cold over the adjacent country.

From the most authentic documents it appears, that the northwest wind prevails in December, January, and February.* The reason of this aerial tide is obvious. On the approach of winter, those eternally frozen regions beyond 46° N. lat., where icy winds range over the naked desert, and from above 50° , where the frost-bound earth forbids the existence of wells or springs, comes a volume of condensed, and almost congealed air, which locks the rivers in fetters of ice, often as far south as 35° north latitude. Warm weather, in the autumnal months, is constantly followed in a short time by a cold northwest or north wind.

This flood of cold air in its motion to the southeast, its usual course, flows down the valleys of the Missouri and Mississippi rivers, sweeps over the Ohio, and first meets an impediment to its motion when coming in contact with the Alleghany mountains. Its progress is here arrested by two causes; first the mountains themselves, and secondly, the mass of cold and dense air upon these mountains. The northwest wind thus interrupted in its direct course, turned by its own gravity to the south, rushes down the Mississippi valley, and often carries frost sufficient to destroy the orange trees on the gulf of Mexico, and to freeze the ponds and other small bodies of stagnant water near the city of New Orleans. Allowing to this great current, a motion of thirty miles per hour, it would cross the continent, from the Frozen ocean to the gulf of Mexico, in about four days. Having fewer obstacles westward than eastward of the Mississippi to impede its advance, this mass of cold air has protruded the limit of snow farther south in the former, than in the latter section of our continent; the same observation might be made respecting frost, but as the northern border of the gulf of Mexico is every where subject to frost, it admits of no interior limit.

The quantity of water that falls upon the earth, in the form of rain, dew, hail, and snow, differs extremely in places situated apparently similar. Not only the existence but the quantity of snow has been connected with the degree of cold, experienced at any given place. The existence of snow must of necessity depend upon a thermometrical depression below that necessary to permit a frost sufficiently violent to freeze water into ice, or prevent its melting; but there is no apparent connexion between the intensity of cold and the quantity of snow. Extremely severe frost often occurs without, or with very little snow; therefore, no fair data is afforded as respects the temperature of any given place by an accurate register of its snows, unless that register contains a correct record of the absolute depth of water that falls in all forms. Rain and snow are mere relative terms.

Whether more or less moisture actually falls west than east of the Alleghany mountains, has never been determined with sufficient certainty to admit a safe conclusion. Judging from analogy, we should suppose that in the interior less moisture does fall than on the Atlantic declivity, on an equal surface; but that, of the respective proportions of snow to rain, we are fully persuaded more of the former meteor falls on the western, than does on the eastern section of our

* Drake's Cincinnati, page 99.

country. In general, snow falls sooner, and remains longer on the ground in the basin of Ohio, than on the Atlantic declivity. Some particular spots in the deep valleys of Ohio, and some other streams, are exceptions to this rule, but their area is very limited, when compared with the entire extent of the basin.

The following summary contains the leading facts from which the foregoing conclusions are drawn, with authorities referred to in the margin.

In 1796, Mississippi and Ohio, (with their confluent) frozen, to their junction.*

In the same year, in December, mercury, at Cincinnati, three mornings in succession, down at 14° , 12° , and 1° , below 0.†

The Mississippi passable on the ice with horses and carriages before the 20th December, 1802-3-4.‡

Rivers are influenced greatly in their congelation by their courses, and the climates from whence their waters are drawn. This may in some measure account for the early freezing of the Mississippi; but the following is an instance of the congelation of that stream, that could only arise from an excessive frost at the place.

In the winter of 1808-9, the Mississippi at Genevieve frozen solid in one night, so as to bear horses and carriages next day.§

The extreme difference in the periods of indorescence and foliage of plants, found to exist in a short distance||

Rye harvest commenced 6th of July, on the Great Kenhawa at the mouth of Elk.¶

Wheat harvest at Monticello and Kaskaskia, began on the same day, July 1st.

Rye harvest began at Cincinnati on the 4th, and that of wheat on the 10th July.**

Woods leafless, October 26th.††

January 8th, 1797, mercury fell at Cincinnati, 18° below zero.‡‡

Deep and durable snows upon the Ohio table land from 40° to 42° north latitude.§§

In addition to these facts, the reader is referred to the description of the physical construction of the Ohio and Mississippi basins, and the adjacent regions.

Respecting the relative heat of the interior and maritime parts of this continent, few words are sufficient. Upon the latter, a sea breeze has a tendency to mitigate the violence of summer heat, an advantage that it but little enjoyed in the former. Environed on two sides by mountains, and cut into deep valleys, where the heat can accumulate and reverberate, it often becomes oppressive, and continues so, many days in succession. In the year 1793, near three months passed away without rain, August, September, and October. Long

* Author of this treatise.—Dr. Drake, page 97.

† Drake's Cincinnati, page 119.

‡ Stoddard's Louisiana, page 236.

§ William Rector, Esq. as quoted in Drake's Cincinnati, page 121, note.

|| Ib. page 88. ¶ Volney, Paris edition, page 167; ib. page 156 and 157.

** Drake's Cincinnati, page 89.

†† Ib. page 90.

‡‡ Winthrop Sargeant, Esq. as quoted by Dr. Drake, page 94.

§§ Drake, page 106.

droughts are frequent, as indeed are incessant rains. The various seasons differ extremely from each other: 1794, was as remarkable for reiterated rains, as the preceding year was for its dryness. The months of September, October, November, and December, of the year 1794, was a period of almost continued rain.

Some persons of observation have contended that as the countries in the interior becomes cleared of timber, that the climate will become more uniform. Such an anticipation is not warranted by the phenomena observable in places already and for ages denuded of timber. In no region of the world can the seasons be more uncertain than in the prairies of Louisiana from one extremity to another. No changes, particularly from heat to cold, is more sudden or more violent, or where the quantity of rains, or the period of their occurrence differs more in two successive years.

The presence of some peculiar vegetables have been adduced as marks of climate; it has been shown how uncertain are all data drawn from such a source. The presence or absence of animals are still less satisfactory.

We have dwelt upon this subject the more from a conviction how much it had hitherto been misunderstood.

As respects the influence of the seasons of the Ohio basin upon emigrants, we refer to the general observations made upon the same subject, when speaking of the regions near the mouth of the Mississippi and Mobile rivers. Though essential difference does exist between the two regions in the quantum and distribution of heat and cold, yet very nearly similar precaution and choice of season for removal ought to be taken for every place west of the Alleghany mountains, at least south of Muskingum.

The greatest inconvenience attending this vast country is the extreme difference between the maximum of heat and cold; it is an inconvenience that may be prudently obviated in a great measure. This subject will however come more appropriately into the last chapter of this treatise, to which the reader is referred.

So much analogy prevails in the general productions and staples of Indiana and Ohio, that little could be added respecting those objects afforded by the latter, that has not been noticed under the head of the former. For some additional articles respecting Indiana and Ohio, see appendix.

WEST PENNSYLVANIA, AND WEST VIRGINIA.

Under this general name is here meant that part of these two states lying in the Ohio basin. In common language, all the region west of the Alleghany mountains inclusive, has received the term of the "Western Country," relative to the Atlantic declivity. It is certainly incorrect to include under such an appellation, considerable extent watered by rivers that flow into the Atlantic ocean.

The tract in question reaches from the north border of the state of Tennessee, to the south border of the state of New-York, 460 miles in length; its medial width nearly 90, but in some places exceeding 100 miles. The area of this region amounts to 43,268 square

miles; 16,500 in Pennsylvania, and 26,768 in Virginia.* We have included the entire superficies under one head, though forming part of two states. The natural connexion being so strong as to render a description of the products of one part nearly correct when applied to the other.

Natural Geography—Minerals.—It has been shown that the Alleghany mountains do not serve to separate the waters that flow into the basin, from those that pursue their course towards the Atlantic ocean; and what is perhaps more remarkable, is, that the natural formations pursue a line of separation different from both the rivers and mountains.

The mountains of West Pennsylvania, are Laurel Hill, and Chestnut ridge; those of West Virginia are, the Blue ridge, Alleghany mountains, and Cumberland mountain.

Of these collateral chains, the *Alleghany* is the principal, and in some measure the spine of the whole system to which it belongs. This mountain is not however a continuous ridge, being cut by several rivers, and bearing local names between the various streams. This circumstance has introduced considerable confusion between the various maps that have been published of this part of the United States.

The Alleghany ridge enters the south boundary of Virginia, between the sources of the Great Kenhawa and Tennessee rivers, ranges N. E. towards Evansham, where it is interrupted by the valley of the Great Kenhawa. In Montgomery it again re-appears and continues north, the southwest corner of Maryland, where it is again broken by the Potomac. From the Kenhawa to the Potomac, the Alleghany is the demarkation between the waters of the Ohio and those of the Atlantic.

In the state of Maryland, this mountain separates the sources of the Potomac and Youghiogheny, and then entering Pennsylvania, is, at about 40° 15' N. lat., again cut by the Susquehanna. Beyond the latter stream, advancing north, this chain becomes more broken, less identified, and gradually depresses into table land near Utica, in the state of New-York; it is, however, no doubt, the same continuous ridge that forms the mountains west of Lake George and Lake Champlain, and is ultimately lost in Canada, between the St. Lawrence and Richlieu rivers.

Cumberland Mountain, by the various local names of Laurel hill, Chestnut ridge, and Cumberland mountain, properly so called. This ridge leaves the north boundary of Tennessee between the sources of Cumberland and Clinch rivers; then in a northeast by east direction of one hundred miles, forms the limit between the states of Virginia and Kentucky, unto the head of Big Sandy, where the mountain enters Virginia, and turns to nearly northeast, which course it maintains through the residue of Virginia and entirely across Pennsylvania, finally disappears near Angelica in the state of New-York.

Beside these two chains of mountains, the region in review pos-

* See table page 187, in which it ought to be noted, is omitted to be included a small tract of 620 square miles in Maryland.

sesses a very distinctive range of hills, which though less elevated than the mountains, forms a very prominent feature in the geography of the country. This range of hills branches from Cumberland mountain, at the head of the Elk branch of Great Kenhawa, and the sources of the Monongahela, and pursuing a course very nearly north between the waters of the latter stream and those of Ohio, enters Pennsylvania, and passing by Waynesborough and Washington, is cut through by the Ohio five miles below Pittsburg. Beyond the latter river, the ridge continues north between the waters of the Alleghany and Big Beaver rivers, is only terminated by the southeast side of Lake Erie.

The peculiar conformation of this region accounts for the curious manner in which its rivers flow; the principal of which are, Ohio, Big Beaver, Alleghany, Monongahela, Youghiogheny, Cheat, Tiger Valley, Great Kenhawa, Little Kenhawa, Big Sandy, Clinch, and Tennessee.

The Ohio is formed at the city of Pittsburg by the confluence of the Alleghany and Monongahela rivers. The stream is about 1000 yards wide at its commencement, with a gentle current. The Ohio first flows northwest, thirty miles, to the mouth of Big Beaver, where it wests ten or twelve miles; passes the line of demarkation between Pennsylvania and the state of Ohio, in a short distance within the latter state, and assumes nearly a south course, which it preserves to the mouth of Fishing creek, which falls in from Virginia. Below Fishing creek, the Ohio turns southwest, and flows in that direction to the mouth of Big Sandy, where it leaves the state of Virginia.

The beauty and variety of the banks of this noble river has been noticed. The scenery is more bold in Pennsylvania, and opposite to the north elongation of Virginia than farther down in Kentucky and the state of Ohio. One bank above Fishing creek is generally bold, sometimes precipitous; the opposite always an extremely rich, alluvial bottom.

Cultivation of the soil, and other improvements, have advanced, and are advancing with a rapidity that can scarce claim credit. Under a review of the towns, this progressive state of society will be noticed in detail.

Big Beaver rises partly in Pennsylvania, and partly in the state of Ohio; is a short but important river. It is interrupted by falls seven miles above its mouth; above the falls this stream is navigable 50 or 60 miles into both states, out of which it draws its waters.

The falls afford a fine seat for machinery, which has been much improved. Some saw mills, grist mills, a furnace, forge, oil mill, fulling mill, wool and cotton carding machines, have been erected.* This place admits of indefinite improvement. The mass of water is such, and height of the falls, as to permit the erection of any supposed number of machines with any power that could be demanded.

Alleghany river. This is a very important stream, and may, at no distant day, form one of the principal links between the countries

* Ohio and Mississippi Navigator, page 73.

east and west of the Alleghany mountains; its physical position cannot be examined with too much care.

This river rises in Potter county in Pennsylvania, and flowing northwest, by the bends of the stream about fifty miles, then enters the state of New York; a few miles within which, at the junction of Olean creek, stands the flourishing village of Hamilton. Below Hamilton, the river flows some distance west, inclines again northwest, receives several large branches from the state of New York, gradually assumes a southwest course, again enters Pennsylvania, and continuing that direction to the town of Warren, there receives from the northwest Chataque river.

This stream issues from Chataque lake, the extreme head waters of which rise within 8 or 10 miles of Lake Erie. To the northeast of Chataque lake lies Buffalo swamp, a large morass of fifteen or twenty miles in length, and three or four wide, out of the south extremity of which a large creek issues, and falls into Chataque creek below the lake.

After receiving Chataque river, the Alleghany continues southwest to the mouth of French creek. The latter rises in the southwest angle of the state of New York, flows southwest to Meadville sixty miles, winds to the southeast, and pursuing that course about forty miles, falls into the Alleghany at Franklin. The united streams continue nearly southeast to Kitaning, then southwest to the city of Pittsburg.

Below Franklin, no branch of any consequence joins the Alleghany river from the right bank, but several unite with it from the left, which serve to augment its volume of water, and add to its navigable usefulness.

Toby's creek rises in McKean, flows southwest by west through Jefferson, joins the Alleghany river in Venango county; its entire length exceeding one hundred miles.

Sandy Lick creek, and two or three others, fall into Alleghany river between Toby's creek and the Kiskiminitas river. This latter stream rises east of the Chestnut ridge, through which it passes in its course to the westward. The extreme southern source of the Kiskiminitas is the Conemaugh river, rising near the town of Somerset, in the valley between the Alleghany mountain and Chestnut ridge; the stream flows along the valley to the northwest, thirty miles, receives a large accession of water by a creek from the opposite direction. The united streams turn suddenly west, and pierce the Chestnut ridge, forming an enormous passage, visible from the apex of the Alleghany mountain 30 or 40 miles distant. This affords one of the finest and most extensive prospects in America. On the road from Bedford to Pittsburg, by Youngstown, the Alleghany mountain is passed obliquely; from the summit of which the beautiful valley of Somerset lies expanded as an immense picture, with the long softened line of Chestnut ridge on the back ground; and to close the delightful landscape, the immense gap formed by the Conemaugh, seems to invite the traveller to the still more fertile regions beyond the limit of his view.

The sources of the Conemaugh, and those of the Juniata approach within a short distance of each other. The Alleghany mountain in-

tervening, the possibility of an artificial communication is doubted. There are no falls of any particular consequence in the Kiskiminitas, and without considerable expense, this stream might be rendered navigable above the Chestnut ridge. Salt water has been discovered of excellent quality; coal, in immense bodies, and iron ore abound upon different branches of the Kiskiminitas, and Conemaugh proper.

Two canals have been projected to unite the waters of Lake Erie with those of the Alleghany river. The first by French creek to Waterford or Erie; the second by Chataque lake. It is confidently asserted that no serious impediment exists to prevent the completion of either of the foregoing channels of communication.

An object, however, of direct, and certainly practicable utility, is the opening of a direct road from Newburgh, or Kingston, in the state of New-York, to Hamilton, on the Alleghany. This route would no doubt be of infinite utility to the emigrants from all the New-England states, by saving them from a painful, circuitous, and expensive journey through New-Jersey and Pennsylvania to Pittsburg. In the list of roads at the end of Chap. VII. will be shown the relative distances by the various roads; of course, the emigrant can make his own selection. The current of the Alleghany river, though rapid, is not impeded by falls; therefore, an uninterrupted navigation from Hamilton to Pittsburg has been opened, and must add greatly to the wealth and commercial facility of the western country in general.

The *Monongahela* river flows in the same valley with the preceding stream, but in a directly opposite direction. This valley, or minor basin, is bounded west by the ridge of hills noticed in page 252, but on the east, in part by Chestnut ridge, and in part by the Alleghany mountain; and affords an additional proof that the river basins are but very little, if at all, influenced by the chains of mountains.

The *Monongahela* rises in the state of Virginia, near as far south as 38° north lat. interlocking with the south branch of Potomac by its east fork, and with Little Kenhawa, and Elk river of the Great Kenhawa, by its west fork.

The east branch is generally known by the name of Tiger valley river, which, like the Conemaugh, pierces the mountains in its way to the main stream: it is navigable into the Green briar valley; boats have descended from this elevated region to New-Orleans, with flour and other produce.

After the junction of the *Monongahela*, or west branch with the Tiger valley river, thirty miles above Morgantown, and forty above the Virginia line, the united stream forms a fine navigable river, extremely rapid, but without falls, or extraordinary rapids.

The length of the *Monongahela*, in Virginia, is about one hundred and twenty miles, following the main stream, and nearly a like distance following the channel of the Tiger valley branch.

Cheat river, joins the *Monongahela* a short distance within Pennsylvania. The latter river rises in Virginia, near the southwest corner of Maryland, between the sources of the north branch of Potomac and those of Tiger valley. Rising east of Chestnut ridge, this stream flows to the north sixty or seventy miles, then turns abruptly west through the mountain, and finally forms a junction with the main

stream, as has been noticed. At a distance of ten or twelve miles from the Chestnut ridge, the Monongahela, after receiving Cheat river, pursues a north course of about seventy miles, following the windings of the stream to its junction with the *Youghiogheny*. The latter river is the longest and largest branch of the Monongahela, having its source nearly as far south as that of Cheat river. The *Youghiogheny* rises in Maryland, between the head streams of the north branch of Potomac and those of Cheat river,—flows north, fifty or sixty miles, enters Pennsylvania, and continuing north along the valley between Alleghany mountain and Chestnut ridge, receives a large branch from the neighbourhood of the town of Somerset, then turns northwest, passes Chestnut ridge by Obiople falls, and continuing that course sixty or seventy miles, forms a junction with the Monongahela, eighteen miles by water above the city of Pittsburg. Below the mouth of *Youghiogheny*, the Monongahela is a gentle current, about 480 yards wide.

Comparing the two rivers together, the Alleghany is no doubt the main branch; at the junction, its current is much more rapid than its rival. The physiognomy of the two rivers are also very distinct. The water of the Monongahela is turbid, of a brown colour; that of the Alleghany extremely limpid and pure.

Though deriving, perhaps, two-thirds of its water from the Alleghany, the Ohio evidently preserves the features of the Monongahela river. The junction of these two streams, and the peculiar range of their respective sources, render Pittsburg one of the most interesting positions in the interior of North America.—Stretching through four degrees of latitude, and flowing in opposite directions, the Alleghany and Monongahela open like two immense arms to engrasp the commerce of the whole of West-Pennsylvania, part of Virginia, Maryland, and New-York. They do so in fact, and since the beginning of this century, Pittsburg has become, from an inconsiderable village, a city containing from twelve to 15,000 inhabitants, and concentrating an immense commercial and manufacturing capital, the detail of which will be given under the article *towns*.

Little Kenhawa, rises west of the Chestnut ridge, or more correctly, Cumberland mountain; it is a stream of no considerable consequence, falling into the Ohio at Parkersburg. How far this stream could be rendered subservient to form a connexion between the east and west side of the Alleghany mountains, has never been shown by any public document that has reached our hand.

Great Kenhawa, is a large, and from its position, a very important river. A remarkable resemblance exists in the physical structure of the Kenhawa and that of the Ohio; though the former is on a much smaller scale than the latter.

The Great Kenhawa is formed by two branches, the Kenhawa proper, and Green-briar river.

Kenhawa rises in North Carolina at 36° north latitude. The sources of this river are actually east of the Alleghany mountain. Its course is first nearly north, passing the mountains into the Alleghany valley obliquely. Near Ashe court-house, this river assumes the range of the latter valley, and, at a distance of about forty miles, en-

ters Virginia, and continuing sixty miles northeast to Inglisville, there turns northwest by north, passes the Alleghany mountains, and enters Cumberland valley, over which it meanders about seventy miles, and receives from the northeast Green Briar river. The latter river rises in Cumberland, or Green Briar valley, and flows southwest by west in all its length of about one hundred miles. Jackson's river, the northwest branch of James's river, approaches to within a very short distance of Green Briar river; the two streams indeed flow nearly parallel to each other, having only the Alleghany mountain between them, and what is remarkable, Jackson river assumes its direct course towards the Chesapeake Bay, nearly opposite to the great bend of Kenhawa, the two rivers flowing in nearly the same line, though in contrary directions.

Below its junction with Green Briar the Great Kenhawa flows northwest forty or fifty miles, passes Cumberland mountain by considerable falls; below which the stream, upwards of three hundred yards wide, pursues nearly a north course of one hundred miles, falls into the Ohio at Point Pleasant $38^{\circ} 55'$ north latitude.

Elk river rises near the sources of the Monongahela and Little Kenhawa, and flowing southwest by west one hundred miles, joins the Great Kenhawa at Charleston.

From its geographical position, no branch of the Ohio is so favourably situated as the Great Kenhawa to become part of the channel of connexion between the Atlantic Ocean and the basin of Ohio. None of the rivers whose sources are drawn from the Alleghany valleys, are more navigable, with the exception of the falls in passing the mountains. In the various projects for uniting the two great parts of our country, this stream has arrested great attention.—(See *articles canals*, and also *Appendix No. X.*)

Great Sandy river forms the boundary between Virginia and Kentucky; it is about one hundred and thirty miles in length, rising in Cumberland mountain. One half the course of this river is navigable for batteaux of considerable burden. It is upon the Great Sandy that the reed cane (*arundo gigantea*) is first found in large quantities advancing from north to south; this grass is found, though in less quantity, on the Great Kenhawa.

Cities,—towns,—productions,—proposed canals.—PITTSBURG is in every respect the principal town, not only of the Ohio valley, but, New-Orleans excepted, of the whole waters of the Mississippi. It was created a city by the legislature of Pennsylvania, at the session of 1815-16.

Travellers are almost always disappointed on entering this city; there is but one point of approach that affords a good view of the place; that is the apex of the coal hill, in the road from Washington in Pennsylvania. The city is built upon the peninsula between the Alleghany and Monongahela rivers; the ground plan is nearly in form of a triangle. The bottom upon which the town of Pittsburg was originally laid out, is now nearly filled with houses; a suburb has been laid out upon the Alleghany called the northern liberties, and another upon the Monongahela. The former, from the width of the bottom from the river to the hill, and from the circumstance of the

turnpike road from the eastward entering through it, is extending rapidly; the suburb upon the Monongahela cannot increase considerably for want of room between Ayres hill and the river.

There are four other villages, however, that are virtually suburbs of Pittsburg; Birmingham, upon the left bank of Monongahela, opposite Ayres hill; Alleghany, upon a fine second bottom of that stream, opposite Pittsburg; Lawrenceville, two miles above Pittsburg, upon the same side of the Alleghany; and a street running along the left bank of Monongahela, opposite Pittsburg. When this city and vicinity was surveyed by the author of this treatise, in October, 1815, there were in Pittsburg 960 dwelling houses, and in the suburbs, villages, and immediate outskirts, about 300 more, making in all 1260, and including inhabitants, workmen in the manufactories, and labourers, upwards of 12,000 inhabitants.

This city is literally a work-shop, and a warehouse for the immense country below, upon the Ohio and other rivers. On a cursory survey, when viewing the iron foundries, glass-houses, and other creative machinery, it is not easy to imagine where the products can be disposed of; but a review of the emigration over the mountains will soon remove this wonder. It will be useless to load the pages of this treatise with the names of the various owners of machinery, but a recapitulation of the objects of human wants must be interesting to every emigrant who intends to visit this real phenomenon.

A large steam grist mill, capable of grinding into flour sixty thousand bushels of wheat annually. Three breweries, in which are made an immense quantity of beer, porter, and ale. One nail factory, including the manufacture of many other objects, in which are manufactured nearly 80,000 dollars worth of ironmongery annually. Two extensive air foundries, in which are cast excellent cannon and cannon balls, smiths' anvils, sad irons, stoves, pots and kettles of all kinds, sugar boilers and cylinders cast, and the latter turned.

Of ironmongery, are now made, sheet iron, nails and nail rods, shovels, tongs, axes, mattocks, hoes, adzes, drawing knives, cutting knives, vices, scale beams, plain bits, chisels, spades, and, in fine, every object necessary in a country of this kind.

Locks, hinges, hasps, screws, but-hinges, bridle bits, buckles, and stirrup and saddle irons, are all manufactured.

Waggon, carts, and drays, with every single substance that can enter their composition, and every tool, (perhaps saws excepted) necessary to their construction, are made in this city.

In November, 1815, there were neither coach or harness maker in the city; if that is still the case, an excellent opportunity is offered to any person acquainted with either or both those occupations.

Perhaps of all the wonders of Pittsburg, the greatest is the glass factories. About twenty years have elapsed since the first glass-house was erected in that town, and at this moment every kind of glass, from a porter bottle or window pane, to the most elegant cut crystal glass, are now manufactured. There are four large glass-houses, in which are now manufactured, at least, to the amount of 200,000 dollars annually.

Pottery is carried on in Birmingham, where excellent stone and black ware are made; common red ware is also manufactured to great amount.

To the above may be added, white lead, red lead, buttons, wheel irons, knitting needles, silver plating, stocking weaving, suspenders, boots, shoes, hats, saddles, bridles, bells, stills, copper kettles, brushes of every kind, curry combs, trunks, brass and iron candlesticks, and in fact an infinity of objects of daily demand, brought a few years past from Europe.

Cotton and woollen cloth is also made extensively, consisting of blankets, vest patterns, hosiery, coarse and fine cottonade, and broad-cloth.

Except the gratifying reflection arising from the review of so much plastic industry, Pittsburg is by no means a pleasant city to a stranger. The constant volumes of smoke preserve the atmosphere in a continued cloud of coal dust. In October, 1815, by a reduced calculation, at least 2000 bushels of that fuel was consumed daily, on a space of about two and a quarter square miles. To this is added a scene of activity, that reminds the spectator that he is within a commercial port, though 300 miles from the sea.

Several good inns, and many good taverns, are scattered over the city; but often, from the influx of strangers, ready accommodation is found difficult to procure. Provisions of every kind abounds; two markets are held weekly.

The circumstance which has contributed most, after its relative position, to secure the prosperity of Pittsburg, is the enormous mass of mineral coal that exists in its vicinity. The coal, like all other fossil bodies in the Ohio valley, rests in horizontal strata, about three and a half feet thick, of very pure bituminous coal. The strata are 340 feet above low water level, or about 290 above the level of Pittsburg; consequently a falling body from the moment of issuing from the mouth of the mine, until placed in the cellar of the consumer. The medium price, six and a quarter cents per bushel, or two dollars and twenty-five cents per chaldron.

Coal abounds in every hill which rises more than four hundred feet above low water mark: where less than eighty or one hundred feet of incumbent earth rests upon the coal bed, the quality of the mineral is found greatly depreciated. It has been already noticed, that the coal strata are perfectly level with each other. In the neighbourhood of Pittsburg they are divided into three separate bodies; the first, and perhaps most extensive, is west of the Monongahela, the second, on the peninsula upon which the city stands, and thirdly, north-west of the Alleghany river. The supply of the city is taken principally from the beds of the second repository, though an immense quantity is also brought from the first.

Two bridges are, by an act of the state legislature, to be built over the Monongahela and Alleghany rivers, in places best calculated to facilitate intercourse with the adjacent country, and to unite together the scattered and detached fragments of the same commercial community.

It may be here observed, that the towns of the interior of the United States may be considered in a double point of view; their political and commercial character. Respecting the first, each town, appropriately, belongs to the state or territory to which it is attached; in the second, as depots, their exclusive features are merged in the general picture of intercourse, where all parts are confounded in one entire whole.

As it respects political regulations, Cincinnati, in Ohio, and Newport, in Kentucky, are totally distinct; commercially, they are the same. Pittsburg and its suburbs, as far as internal policy is concerned, have different regulations, and are subject to municipal authority of different powers; but as parts of a moral, agricultural, and commercial society, the town and suburbs differ no more from each other, than do the streets of each other taken separately. The same observation may be illustrated by the connexion between Boston, Cambridge, Charlestown, and Roxbury; by New-York, Brooklyn, and Paulus' Hook; and Philadelphia and its Liberties, with Camden in New-Jersey.

Perhaps no circumstance respecting Pittsburg, or any part of the valley of the Ohio, could more justly claim the interest of the reader than the following letter. When in Pittsburg, the author of these observations had the curiosity to carry the volume containing this invaluable document to the very point from where it was written sixty-two years before, and there read its contents. The description of the rivers and other durable features in nature are admirably appropriate: but the thick forest that then covered the point has disappeared, and a flourishing city has arisen. The pleasing circumstances of reminiscence that the perusal of this letter must create are numerous; the immortal mind that dictated it has performed his earthly services, and has gone to the fruition of his reward; but his name and his example must endure to cheer, to animate, and console mankind, as long as literature remains to record virtue, and stimulate to its imitation. When the reader on the spot casts a retrospective glance upon the history of the last seventy years, and recalls the days of the youth of WASHINGTON; when he reviews the events that have changed, not only this, then dreary waste, to a smiling picture of active industry and domestic happiness, but remembers also how much the acts of this youth during his ripened manhood, contributed to this change, his heart must dilate with mingled sensations of pleasure, of gratitude, and admiration.

"The excessive rains and vast quantity of snow, which had fallen, prevented our reaching Mr. Frazier's, an Indian trader, at the mouth of Turtle creek, on Monongahela river, till Thursday, the 22d (November, 1753). We were informed here, that expresses had been sent a few days before to the traders down the river, to acquaint them with the French general's death, and the return of the major part of the French army into winter quarters.

"The waters were quite impassable without swimming our horses, which obliged us to get the loan of a canoe from Frazier, and to send Barnaby Currin and Henry Steward down the Monongahela with our

baggage, to meet us at the forks of Ohio, about ten miles; there to cross the Alleghany.

"As I got down before the canoe, I spent some time in viewing the rivers, and the land in the fork, which I think extremely well suited for a fort, as it has the absolute command of both rivers. The land at the point is twenty, or twenty-five feet above the common surface of the water; and a considerable bottom of flat, well timbered land all around it, very convenient for building. The rivers are each a quarter of a mile, or more, across, and run here very near at right angles; Alleghany bearing northeast, and Monongahela southeast. The former of these two is a very rapid, and swift running water; the other deep and still, without any perceptible fall.

"About two miles from this, on the southeast side of the river, at the place where the Ohio company intended to erect a fort, lives Shingiss, king of the Delawares."

The spot alluded to in this extract is now the site of the city of Pittsburg; and through which, from the first of April to the first of November, 1815, passed upwards of twenty millions of dollars worth of merchandise. This assertion may be doubted, but it is founded upon a careful survey made by the author. The document was received from the merchants upon the spot. The importations of 1815, certainly exceeded the ordinary amount; but if the iron and pot metal used in the work-shops, and which are brought from the Laurel hill, and Juniata forges and furnaces are added to other objects of commerce, 20,000,000 dollars is not too high an estimate for the annual amount of merchandise that passes the ware-houses of this rapidly increasing city.

Pittsburg has been very justly considered as a common centre to the adjoining country; but it is more,—from the very extensive mercantile connexions of this city, the emigrant can receive more accurate intelligence here than in any other place west of the Alleghany mountains, upon most subjects of inquiry.

There are in Pittsburg five or six places of public worship, one academy, several private schools; four banks, three or four printing offices, and two large book stores. A public library has been commenced, but not any considerable progress made in the collection of books.

Mr. Robert Patterson has established upon the banks of the Alleghany river, above the northern liberties, a paper-mill upon a large scale, in which excellent paper of almost every kind necessary for the consumption of the city and neighbourhood is manufactured.

In brief, this city has within a few years assumed the form and features of an immense mercantile and manufacturing depot. In it men of all trades and professions may either find employ, or receive information where employ may be found.

Brownsville, in Fayette county, stands, in point of wealth and population, next to Pittsburg, amongst the towns in West Pennsylvania.

* Report of Major, afterwards General, Washington, to Governor Dinwiddie.

In this estimate, Bridgeport, above the mouth of Dunlap's creek, is included. Those two towns have been formed into separate boroughs; but in all relations of society and commerce, they are strictly one and the same.

The site of Brownsville is singular and picturesque. The banks of both Dunlap's creek and the Monongahela river are high, with a very narrow bottom skirting the latter. The town is built upon the slope of the hill, the houses rising above each other to a considerable height. The difference of elevation between the houses upon the Monongahela, and those in the highest part of the town, must exceed three hundred feet.

Bridgeport was commenced upon the bank of the Monongahela, above the mouth of Dunlap's creek. The bottom is here considerably wider than at Brownsville; the town has however ascended the hill, and, from the opposite bank of the river, has, like its counterpart, the pleasing appearance of the steps of an amphitheatre.

In the neighbourhood of these two towns is the oldest, best populated, and best cultivated settlements in West Pennsylvania. An immense number of machines of different kinds have been erected, either in the towns or immediate neighbourhood. Coal is abundant, and from the peculiar structure of the ground, still more convenient than in Pittsburgh. The streets actually pass over the coal stratum; of course this fuel is dug out amongst the houses.

This place has been remarkable, since the first settlement of the country, for boat building. Very considerable number of emigrants from the southern parts of Pennsylvania, and from Virginia and Maryland, take water here. Boats can always be had at very short notice, of any description demanded.

The great road from Washington city to Wheeling in Virginia, passes Brownsville; from the former place it is distant 220 miles, and from Wheeling, by the road, 57; but following the bends of the Monongahela and Ohio rivers, 152 miles.

The active capital now employed in the banking, mercantile, manufacturing, and agricultural establishments near Brownsville, is very great, and annually increasing. Landed property is now high, and must probably remain so, if not advance.

Some of the best flour mills in the western country is in this neighbourhood. The Monongahela flour is the most esteemed in Natchez and New Orleans, of any that comes down the Mississippi river, and many of the best brands are from Red Stoe, Dunlap's, and Ten Mile creeks.

There is one bank, and one printing office, in Brownsville; several good public houses are also established, where strangers can be accommodated with comfort, and at the cheapest rate of any town west of the Alleghany mountains. The society of Friends have given tone to public manners; some of the most wealthy, respectable, and influential of the inhabitants are of that community. There is perhaps no part of the Ohio valley where a benevolent mind would be more gratified to review, than this singularly active, industrious, and flourishing settlement. No section of the country, of which it forms a part, where the manners of the inhabitants are more polite and attentive to

the traveller. A bridge over Dunlap's creek unite the towns. The increased population of Brownsville and Bridgeport must now amount to between three and four thousand.

Of the other towns in the neighbourhood of Pittsburg and Brownsville, the most remarkable are, Washington, Morgantown, Union, Somerset, Greensburg, Kittaning, Franklin, Meadville, Erie, Waterford, Hamilton, Butler, Beaver, Charleston, and Wheeling.

Washington, the seat of justice for Washington county, stands upon one of the head branches of Chartier's creek, upon the road from Brownsville to Wheeling, as also upon the road from Pittsburg to Wheeling. It is of course a kind of thoroughfare. This town is situated amidst a fertile, well cultivated, but broken country, amid the ridge of hills described in page 252.

The author recollects having, when a boy, collected hazelnuts upon the very spot where the court-house of Washington now stands. At this epoch the town contains an elegant court-house, an academy, several private schools, two printing offices, a very large steam flour mill, and many other public and private edifices for commercial and manufacturing purposes, and upwards of 400 dwelling-houses, with 2500 inhabitants. From the apex of a hill upon the road from Washington to Brownsville, about two miles from the former, the Chestnut ridge can be distinctly seen in a long, blue line, rising above the distant horizon. This is the first place where, we believe, any part of the Alleghany mountains can be seen when advancing from Ohio eastward in the peninsula between the Monongahela and Ohio rivers.

Morgantown is the seat of justice for Monongahela county in Virginia; it is an inconsiderable village, on the right bank of the Monongahela river, consisting of sixty or seventy dwelling-houses, a few stores, a court-house and jail, with perhaps 500 inhabitants.

Uniontown, called formerly, from its owner, Beesenstown, is the seat of justice for Fayette county, and is situated upon both sides of Bedstone creek, eleven miles southeast of Brownsville, upon the road from the latter place to Baltimore and Washington city. Union is a pleasant and agreeable village; the adjacent country is waving, though not very hilly. Some good public houses are to be found in this town, where good accommodations can be procured.

In Union are, of public edifices, a court-house, jail, two or three places of public worship, an academy, several private schools, and a great number of water, grist, and saw mills, either in the town or vicinity. The reader may be somewhat surprised to hear of grist and saw mills propelled by water in the midst of a town; but the circumstance arises in Union, from the peculiarity of its site. The bottom upon which the town is built is not considerably elevated above the level of Redstone creek; a dam is laid over the stream above the town, from which two or three races are conducted, all of which traverse the town.

The number of inhabitants in Union are about 1200, for whom, and those in the vicinity, one weekly newspaper is published.

Greensburg is the seat of justice for Westmoreland county, and is pleasantly situated upon the great road from Pittsburg to Philadelphia,

twenty-six miles from the former city. The country near Greensburg is fertile and well cultivated. There is nothing very remarkable to distinguish from the ordinary seats of justice in the respective counties adjacent. Its present population is about 800.

Somerset is remarkable, as being the most eastern town of any consequence in West Pennsylvania, and except Hamilton in the Ohio valley. It is the seat of justice for Somerset county, and stands near the head streams of both the Youghiogheny and Conemaugh rivers, but upon those of the latter. This town stands upon the south road from Pittsburg to Bedford, and contains about 100 dwelling-houses, many of them elegant, and about 500 inhabitants. The mountain valley in which this town is situated, is the abode of health, and pure, though often keen air.

Kittanning, the seat of justice for Armstrong county, Pennsylvania, is a small, but an agreeable and thriving village, upon the left bank of the Alleghany river, about 35 miles by land northeast from Pittsburg. This town is of less consequence to emigrants, from not standing upon any of the great roads from the eastward.

Franklin occupies the point between the Alleghany river and French creek, and ought to be, from its position, a place of great consequence: it has not yet progressed equal to what might have been expected from its local advantages.

Meadville, the seat of justice for Crawford county, stands upon the left bank of French creek, and is a thriving commercial town, surrounded by a rich, well cultivated, and fertile country. The increase of this latter town has no doubt contributed to retard the advance of Franklin. Meadville now contains seven or eight hundred inhabitants. It is upon the road from Pittsburg to Erie.

Waterford, in Erie county, is the point of contact between the commerce of the Canadian lakes, by Erie, and that of the valley of Ohio, by Pittsburg. A very fine turnpike road has been formed from Erie to Waterford, which greatly facilitates the transport of goods over this portage of fifteen miles. Waterford is now in a flourishing state, has fine public inns, stores for goods, warehouses, and in fact assumes the appearance of a commercial depot.

Erie, formerly Presqu'isle, is situated upon lake Erie. The site of this town was not originally in the limits of Pennsylvania, but a purchase from the state of New York. This town is now, and always must remain, a place of great importance. Its position is extremely well adapted to connect the northern lakes with the waters of the Ohio. It is now a port of entry, where merchandise to an immense amount is entered. Salt, alone, is annually disposed of here to a great amount. Few towns of the western parts of the United States bids fairer than this for lasting prosperity.

Erie is the seat of justice for Erie county, and now contains about 100 inhabitants.

Hamilton, in the state of New-York, is situated on the north branch of the Alleghany river, at the mouth of Olean creek, in Cataraugus county. This new town has lately excited considerable attention, as likely to form a point of contact between the waters of the Ohio and those of the Susquehanna and Hudson. At Hamilton, the Alleghany

has assumed the appearance of a river, and is from thence to Pittsburg navigable, when the waters are but moderately swelled by rain.

Several notices of this town have appeared in the public prints, some of which may be seen in the Appendix. The list of roads will exhibit the relative distances from New-York to Pittsburg, by the route of Hamilton, by Philadelphia and by Albany. The relative position can be seen upon the attendant map.

Charlestown, on the east bank of the Ohio river, at the mouth of Buffalo creek, and also on the east side of Wheeling, at the mouth of Wheeling creek, are flourishing towns, though confined to little more than one street along the banks of the river. The former of these two towns is the seat of justice for Brooke, the latter for Ohio county in Virginia; they are, particularly the latter place, of considerable commercial consequence.

In Virginia, west of the mountains, no other towns of any particular consequence exists. In Pennsylvania, beside those already noticed, there are several others of minor importance, but of some consequence to the neighbourhood where they are placed, as seats of manufactures, stores, or of labour-saving machinery. Of this class are, on the Monongahela, Fredericktown, on the west side near the mouth of Ten-Mile creek; Williamsport on the same side of the river, near the mouth of Pigeon creek; McKeesport, on the east side, at the mouth of the Youghiogheny river. Upon the Youghiogheny, near the Ohiopyle falls, stands Connelstown, a small place, but remarkable for extensive iron-works.

Some others are scattered over the country, but do not merit a distinct notice.

The region we have under review, is remarkable for its mineral wealth; more especially the most useful, iron, salt, and coal. The former may be said to abound in a great variety of places, along the entire range from the border of New-York to Kentucky. In Virginia and Pennsylvania are a number of forges and furnaces, where an immense quantity of iron and castings are made. At Brownsville, many years past a steel manufactory has been established, which has succeeded. The cast iron that supplies the manufactories of Pittsburg, is mostly brought from the waters of the Kiskiminitas. The best wrought iron from the Juniatta, not far from Bedford.

Salt water has been found upon the Conemaugh, and upon the Great Kenhawa, and in Wyth county, in Virginia. It is now rendered probable, that by sinking wells to a sufficient depth, that salt water might be procured in almost any place along the western range of the Chestnut ridge. All the salt wells yet formed from Wyth to the Onondago, in New-York, are in this range.

Salt works are now in operation on the Conemaugh and Great Kenhawa, where great quantity of salt is made. It is only those who have resided twenty-five or thirty years in this country, who can fully appreciate the benefits arising from those salt works.

From the end of the revolutionary war down to about 1800, when salt was first brought from Onondago, in the state of New-York, salt was, in West Pennsylvania, five dollars per bushel, and if the then value of money was taken into the account, near double the foregoing

price when compared with the present standard of money. By the introduction of salt from Conemaugh, and from the Great Kenhawa, that necessary is now often at less than three dollars per barrel.

In point of public utility, mineral coal disputes with salt the pre-eminence. The quantity and excellence of the latter fossil is a matter of real astonishment. On both banks of the Monongahela and Alleghany rivers, as well as those of Ohio, to an immense extent, almost every hill, rising more than four hundred feet above low water mark at Pittsburg, is penetrated with coal. Whilst immense forests of wood remain, the full value of coal cannot be developed; but every succeeding year, by diminishing the timber, will tend to render the importance of coal more apparent.

Pittsburg and Brownsville have been almost created by the use of coal. When so powerful an agent as steam is formed by a fuel so cheaply and easily procured, the advance superinduced in the arts measures at once the march of ages. Human belief a few years shrunk from, and ignorance scoffed at steam; but the present state of the arts in the United States has reassured the former, and given the blush to the latter.

In a country which the writer of this article saw little better than a wilderness only thirty-six years past, is now established every art that can ameliorate the condition, and embellish human society. Where he saw the rude canoe, now floats the rapid steam-boat; perhaps the highest point of perfection in human conveyance which nature permits.

It may not be irrelevant to notice, that the first steam-boat that ever floated on the western waters was the New-Orleans, launched at the city of Pittsburg, March, 1811; the numbers now on the confluent waters of the Mississippi amount to near twenty, and are annually increasing.

CHAP. VII.

That part of the United States included in the basin of St. Lawrence comprises about one-third part of the state of New-York; a very small tract of about two hundred square miles in Pennsylvania; nearly one-fourth part of the state of Ohio; all the territory of Michigan; about 1500 square miles in the state of Indiana; and a large defectively known northwest territory skirting between Lakes Michigan and Superior, and to the southwest of the latter.

Of this region, those parts lying in Indiana, Ohio, and Pennsylvania, have been noticed. The northwest territory remains unexplored, and continues in possession of the native Indians. The western parts of New-York and the Michigan territory are the only parts of the expanse under review, that have not been described.

Contrary to the method we have hitherto pursued, we shall precede the statistical table of these two latter sections, by a review of the natural geography of the country in which both are included.

In a review of either West New-York or Michigan, the first and primary feature that obtrudes itself is that great inland sea, composed of five large, and several smaller lakes. Of the large lakes, four appertain to the country we are now describing; several of the smaller lakes are also situated within this tract.

Lake Michigan is properly composed of two lakes, Michigan proper, and Green bay; the latter lying to the northwest of the former. Lake Michigan is a fine sheet of water of about 270 long, by a medial width of seventy. The navigation in this lake is good, but the connexion with Huron difficult and shallow. No settlements of whites of any considerable consequence have yet been formed upon either its banks or confluent rivers. Most of the lands that border this lake are the property of the aboriginal savages.

Fort Michilimakinac stands upon an island in the strait between Michigan and Huron lakes. This town is of importance as a station for Indian trade. The island is barren; but from its locality must, in the advance of population and improvement, become of great importance. Many years past, the peltries exported from Michilimakinac, amounted to upwards of \$230,000 annually. This post was taken by the British during the last war, and given up at the peace.

Huron is, next to Lake Superior, the most extensive of the five large lakes of Canada, lying in the form of a triangle; the greatest length from Gloucester bay, the most easterly extension to Michilimakinac, 230 miles, and the greatest breadth from Fort St. Clair to the north side of the lake, 200 miles. Huron is strictly composed of two lakes, which are divided by the Manitoulin islands, which extend in a long chain from the peninsula of Cabot's head to St. Mary's strait. This lake is navigable for ships of any size; but from the shallowness of St. Clair river and lake, the passage into Lake Erie is impracticable, except for small vessels. A long bay, of near seventy miles in depth, protrudes from Huron into the Michigan peninsula, by the name of Sagana bay. The country around Huron has been generally represented as sterile; some latter and perhaps more accurate

accounts have given a more favourable picture; all concur in describing the climate as severe in winter.

All the vast body of water from Superior, Michigan, and Huron, are carried down St. Clair river, into the small lake, of the same name, and from thence by Detroit river into Lake Erie.

The peninsula, now known by the name of the Michigan territory, is, except to the south, enclosed by the lakes we have noticed, and by the southwestern extremity of Lake Erie. The entire outline of Michigan territory is 650 miles, 500 of which is water.

Erie is, to the United States, by far the most important of the lakes on their northern border. It is at this time the point of contact between the British dominions in Canada, and the vitals of the western states. Should the canal from the Hudson to this lake be completed, its commercial importance will be greatly enhanced. When the approaches to Lake Erie are fully examined, it excites admiration to behold how far its natural position is calculated to form an extensive chain of connexion between different and very distant members of the United States.

Very short canals will unite Lake Erie in two places with the Alleghany; another of not much greater length will bring together Cayahaga and Muskingum rivers. A similar facility exists to open a communication by Sandusky with Sciota, and St. Mary's with the Wabash. The town of Erie stands upon a good, though rather exposed harbour. The general depth of water in this lake is sufficient for ships of any tonnage. Marine warfare has already on its surface exhibited all the bold and prominent features of naval combat. One of the most verdant of American laurels was gained on the face of Erie.

After what has been done within the lapse of the last twenty years, it cannot be dangerous to predict that thirty more years will not elapse before a water interior communication will extend from New-York to New-Orleans.

Upon the formation of the canal from Albany to Lake Erie, one opinion is entertained by disinterested men; and one source of failure only dreaded. Opposition to improvement too often creates the obstacles which it pretends to point out; and by exciting distrust, prepares the way for the fulfilment of its own predictions. If this great design is completed, it will do honour to the age in which it was projected, and to the nation by whom it will be performed. No doubt but to that, as to Fulton's application of steam to the impulsion of vessels in water, the most insurmountable impediments will arise from that distrust that seems the natural offspring of the human heart, against all undertakings out of the common track of daily habit.

The surface of Lake Erie is by actual measurement 565 feet above the level of tide water in the Hudson; the surface of the Monongahela at Brownsville, as stated by the secretary of the treasury, in his reports on roads and canals, is 850 feet above the level of tide water in the Chesapeake; thus it appears, the surface of Lake Erie is depressed 285 feet below the river Monongahela at Brownsville, or about 240 below the Ohio at Pittsburg.

Ontario, the least and most eastern of the five great lakes of Canada, forms part of the boundary of New-York on the north-

west ; it is about 200 miles in length, by 40 in width. The country included in the angle between the eastern extremity of lake Erie and the south border of New-York, is composed of table land, cut by two rivers, Genesee and Oswego ; and chequered by numerous lakes. This table land is divided into two unequal plains. The lower plain extends along the entire south border of the lake, with a width of from ten to twelve miles, bearing evident marks of having been, at no very remote time, covered with water. The second plain is of equal length with the former ; but of much greater extent, being near 100 miles wide. Upon this higher plain are the sources of the rivers Genesee and Oswego, and upon it lie that singular group of lakes, composed of Oneida, Onondago, Otsego, Skeneateles, Owaseo, Cayuga, Seneca, Crooked lake, Canandaigua, Honeoye, Long, Hemlock, and Canesus.

Except the four latter, which are all small, and which compose, in part, the waters of Genesee, the others are branches of the Oswego river.

The *Genesee* river rises in Potter county, in Pennsylvania, interlocking with the sources of the *Aleghany* river, and flows northeast by north over the state of New-York one hundred and twenty miles in length, falls into Lake Ontario at very nearly mid distance from its eastern and western extremities. This river is interrupted by a fall of seventy-five feet perpendicular, about twelve miles from its mouth.

Oswego river is one of the most singular streams on earth ; its western branch, *Seneca* river, is formed by the group of lakes that have been noticed, which all extend in a nearly north and south direction. Their discharge is to the north, into *Seneca* river. The course of the *Seneca* is from west to east, receiving also a number of creeks from the south beside the discharge of the before mentioned lakes.

Oneida river rises near Rome, by a stream called *Wood creek*, which latter flowing west ten or twelve miles, joins *Fish creek* ; the united stream within a very short distance below their junction, dilates into *Oneida* lake. The latter lake, contrary to those on the *Seneca* river, lies east and west thirty miles in length, and ten or twelve wide. At the western extremity flows out the *Oneida* river, which by a very circuitous channel of twenty or twenty-five miles, joins with the *Seneca*, and forms the *Oswego* river. The latter stream assuming a course northwest by north thirty miles, falls into Lake Ontario at Fort Oswego.

It is along the higher plain, already noticed, that the waters of the *Oswego* flow ; it is indeed singular, that the courses of all the channels of the lakes south of *Seneca* river had not continued north into lake Erie, like the lower plain : the one more elevated, bears evident traces of having been also once the bottom of a lake.

The higher plain is not a uniform level, its surface being cut by the numerous channels of the rivers and creeks.

It is over this great table land that the projected canal to unite the waters of the *Hudson* to those of lake Erie, is to run. In the list of roads annexed to this chapter, can be seen the distances and

elevation of the various points in the route of the canal, as published by the commissioners under whose inspection the survey was made. Upon the map of the United States, prefixed to this volume, the range of the canal is marked with the intermediate distances.

It would swell this treatise to an inconvenient size to enumerate the various towns of West New-York, or, as is more generally known, "Genesee country." It will be sufficient to observe, that it is among the most productive regions of the United States. It abounds in two of the most useful of minerals, salt and gypsum.

Onondago county seems to be the centre of these minerals, so precious to the people of the country where found, and also to the adjacent states. Immense sums are annually saved to the people of the state of New-York from the sale of their surplus salt; gypsum is now also becoming an object of commerce by the channel of the Alleghany rivers. See Appendix, No. 11.

Of the climate and seasons of West New-York, little can be super-added to what has been noticed in chapter 6.

The following list of roads embraces several routes, for which no itinerary has ever before been made; many of the relative distances may not be entirely accurate, but we were induced to give them from the best information on hand, as the traveller or emigrant may be benefited by the indication of new channels of communication, though not minutely correct.

We have chosen the city of New-York as the point of departure in most cases: the reader can however adapt the distances to other places with very little trouble.

No. 45.

New-York to Lexington, Kentucky, by Philadelphia and Pittsburg.

	<i>Miles.</i>	
Newark, New-Jersey	9	9
Elizabethtown	6	15
Bridgetown	6	21
Woodbridge	4	25
New-Brunswick	10	35
Princeton	18	53
Trenton	12	65
Bristol	10	76
PHILADELPHIA	20	96
The Buck	11	96
Admiral Warren	12	107
Downing's Town	10	129
Conestoga bridge	17	146
Lancaster	4	162
Elizabethtown, upon the Susquehanna river	11	173
Chamber's Ferry	14	187
Carlisle	22	207
Shippenburgh	21	228
Strasburgh	10	231
Fort Lytleton	13	254
Juniatta	10	264

EMIGRANT'S GUIDE.

271

Miles.

Bloody Run	-	-	-	-	6	270
Bedford	-	-	-	-	8	278
Ryan's, foot of the Aleghany mountains	-	-	-	-	11	289
Stoy's Town	-	-	-	-	17	306
Fort Ligonier	-	-	-	-	12	318
Young's Town	-	-	-	-	8	326
Greensburg	-	-	-	-	11	337
Turtle creek	-	-	-	-	20	357
PITTSBURG	-	-	-	-	12	369
Canonburgh	-	-	-	-	18	387
Washington	-	-	-	-	7	394
McCracken's	-	-	-	-	10	404
Alexandria	-	-	-	-	7	411
Reefer's, Virginia	-	-	-	-	10	421
Wheeling, on Ohio river	-	-	-	-	6	427
St. Clairsville, state of Ohio	-	-	-	-	10	437
McDonald's	-	-	-	-	7	444
Enalow's	-	-	-	-	9	453
Wherry's branch	-	-	-	-	8	461
Smith's	-	-	-	-	5	466
Beamer's	-	-	-	-	5	471
Will's creek	-	-	-	-	6	477
Spear's	-	-	-	-	8	485
Morrison's	-	-	-	-	4	489
Brown's	-	-	-	-	5	494
Zanesville	-	-	-	-	9	503
Beard's	-	-	-	-	12	516
Canaway's	-	-	-	-	10	525
New Lancaster	-	-	-	-	8	533
Pursley's	-	-	-	-	11	544
Craig's	-	-	-	-	11	555
McCoy's	-	-	-	-	6	561
Chillicothe	-	-	-	-	6	567
Reave's Crossings	-	-	-	-	12	579
Falls of Paint creek	-	-	-	-	2	581
Hom's	-	-	-	-	20	601
January's, on Ohio river,	-	-	-	-	17	618
Maysville, Kentucky,	-	-	-	-	15	633
Washington	-	-	-	-	4	647
May's Lick	-	-	-	-	9	656
Blue Lick	-	-	-	-	13	659
Millersburg	-	-	-	-	14	673
Paris	-	-	-	-	8	681
Lexington	-	-	-	-	20	701
NASHVILLE, see Nos. 26 and 39—page 199	-	-	-	-	275	976
NATCHEZ, see No. 30, page 157	-	-	-	-	432	1438
NEW-ORLEANS, by Madisonville, see No. 8, page 40	-	-	-	-	156	1564
By the Levée, see No. 21, page 150	-	-	-	-	224	1632

From New-York to New-Orleans, by Pittsburg, and by the Ohio and Mississippi rivers.

	Miles.
PITTSBURG	369
(See No. 12, page 46, Nos. 13 and 14, page 47, No. 27, page 154, No. 28, page 155, and No. 29, page 156.)	
NATCHEZ (see No. 28, page 155.)	1613 1982
NEW-ORLEANS (see the preceding tables)	223 2205

The stationary distances on the Mississippi river, marked in No. 28, page 15, and those upon the Ohio, in No. 29, page 156, falls short of any estimated distance yet published, of either of those rivers. In the early period of navigating streams, their length has in most instances been over-rated considerably. As it respects facility of gaining a passage from Pittsburg to any given place below that city, the spring months are the most favourable; but it is also the most dangerous season to descend the Mississippi river. For persons who intend visiting any part of the United States, west of the Alleghany mountains, below 38° N. lat. the month of October or November affords the safest season. In most years there is a swell in the Ohio in one of those two months; this river but seldom closes with ice before the middle of December, and perhaps two winters in three not before the beginning of January.

The strictest attention to the soundness of the materials and the solidity of the workmanship of the boats is indispensable. Most of the accidents which happen upon the waters of the Mississippi arise from insufficient boats. This is the more inexcusable, since of all the vessels made to float on water, there are none in the construction of which so little need be sacrificed to lightness, as in the arks, made to float upon the various streams of the western states. When made from good timber and plank, and skilfully formed, the ark is a pleasant and safe vessel in which to descend a river.

Floating in the night, and particularly in the Mississippi, is a very reprehensible practice, that nothing but necessity can excuse. Even the steam-boats ought to anchor at night above Natchez; below that city the river becomes less incumbered with timber, and below the efflux of Atchafalaya few snags exist in the stream.

Steam-boats have, upon the Ohio and Mississippi rivers, reduced the time and added much to the pleasure and convenience of travelling. These useful vessels are increasing annually;—it is probable that, in 1820, thirty steam-boats will be in operation between Pittsburg, St. Louis, and New-Orleans.

Annunciations are now made in the Kentucky papers, of arrivals from New Orleans of merchandise by the various steam-boats, in less than one-third the time formerly demanded to complete similar voyages by barges. Virtually, the contiguity of New Orleans to the Western states is diminished at least one-half by the substitution of the impulsion of steam for that of manual labour.—See Appendix No. XI.

EMIGRANT'S GUIDE

273

No. 46.

From the S. W. to the N. E. corner of the State of Ohio.

	Miles.
From Mouth of Great Miami to North Bend	7
Cincinnati	16
Lebanon	31
Springfield	44
Grayum's	17
Franklinton	25
Worthington	5
Byseby	16
Fredericktown	24
Greene	15
Jerome	9
Northampton	47
Boston	6
Cleveland	24
Grand river	32
Harpersfield	17
Litchfield	27
M. of Conneought	7

No. 47.

From Cincinnati to Urbana.

To Reading	10
Price's	7
Lebanon	14
Waynesville	10
Xenia	14
Yellow Springs	9
Springfield	9
Urbana	14

No. 48.

From Chillicothe to Cincinnati.

Bainbridge	18
Forks of the Road	6
Newmarket	18
Williamsburgh	22
Cincinnati	30

No. 49.

From Chillicothe to Marietta.

Adelphi	14
Collen's	10
Hewet's	25
Harper's	7
Athens	2
John Brown's	9
Ewing's	11

					<i>Miles.</i>
Houghland's	-	-	-	-	9 77
Samuel Brown's	-	-	-	-	9 86
Marietta	-	-	-	-	8 94

No. 50.

From Marietta to Zanesville.

Waterford	-	-	-	-	18 18
Sealy's	-	-	-	-	2 20
Stephen's	-	-	-	-	14 34
Salt Works	-	-	-	-	7 41
Zanesville	-	-	-	-	11 52

No. 51.

From Cleveland to Zanesville.

Hudson	-	-	-	-	25 25
Havanna	-	-	-	-	17 42
Durfield	-	-	-	-	10 52
New Lisbon	-	-	-	-	22 74
Steubenville	-	-	-	-	36 110
St. Clairsville	-	-	-	-	30 140
Moor's	-	-	-	-	25 165
Beaver	-	-	-	-	10 175
Toll-bridge	-	-	-	-	7 182
Zanesville	-	-	-	-	28 210

No. 52.

From Pittsburg to Paynesville, on Lake Erie.

White's	-	-	-	-	12 12
Crow's	-	-	-	-	10 22
Beaver	-	-	-	-	7 29
Falls of Beaver	-	-	-	-	3 32
Greensburg	-	-	-	-	8 40
Douglas	-	-	-	-	15 55
Curten's	-	-	-	-	7 62
Youngstown	-	-	-	-	7 69
Warren	-	-	-	-	14 83
Wilson's	-	-	-	-	14 97
Bondstown	-	-	-	-	16 113
Paynesville	-	-	-	-	14 129
Lake Erie	-	-	-	-	3 130

No. 53.

From Pittsburg, by Steubenville, to Chillicothe.

To Mark's	-	-	-	-	7 7
Marshall's	-	-	-	-	6 13
Bevington's Mills	-	-	-	-	7 20
Briceland's X Roads	-	-	-	-	4 24
Buchanan's	-	-	-	-	6 30
Steubenville	-	-	-	-	6 36

						Miles.
Maxwell's	-	-	-	-	-	8 44
Lattas	-	-	-	-	-	3 47
Day's	-	-	-	-	-	2 49
Cadiz	-	-	-	-	-	12 61
Kennedy's	-	-	-	-	-	7 68
Titus'	-	-	-	-	-	1 69
Wilkins'	-	-	-	-	-	12 81
Martin's	-	-	-	-	-	4 85
Wyrick's	-	-	-	-	-	8 93
Cambridge	-	-	-	-	-	8 101
Zanesville	-	-	-	-	-	26 127
New Lancaster	-	-	-	-	-	30 157
Chillicothe	-	-	-	-	-	27 194

No. 54.

From Pittsburg to Vincennes.

To Lexington (See No. 25.)	-	-	-	-	332	332
Frankfort	-	-	-	-	22	354
Shelbyville	-	-	-	-	22	376
Middletown	-	-	-	-	20	396
Louisville	-	-	-	-	12	408
Clarksville	-	-	-	-	3	411
The Knobs	-	-	-	-	5	416
Beech Creek	-	-	-	-	7	423
Indian Creek	-	-	-	-	6	429
Blue River	-	-	-	-	12	441
Sullivan's Spring	-	-	-	-	17	458
Little Blue River	-	-	-	-	3	461
Big Lick	-	-	-	-	8	469
Patoka Creek	-	-	-	-	9	478
Mud Holes	-	-	-	-	9	487
Muddy Creek	-	-	-	-	10	497
White Oak Spring	-	-	-	-	8	505
White River	-	-	-	-	5	510
Vincennes	-	-	-	-	15	525

No. 55.

From Pittsburg, via Jefferson, Pickaway Plains, to Urbana.

To Steubenville (See No. 53.)	-	-	-	36	36
Zanesville (See No. 53.)	-	-	-	91	127
New Lancaster	-	-	-	30	157
Leather's	-	-	-	8	165
Jefferson Pickaway	-	-	-	12	177
New London	-	-	-	34	211
Marlde's	-	-	-	5	216
Urbana	-	-	-	18	234

No. 56.

From Pittsburg to Detroit.

	Miles.
To Warren (See Nos. 52 and 59.)	77
Cleveland	54
Huron	47
Sandusky	36
Fort Meigs	32
River Raisin	30
Detroit	36

No. 57.

From Pittsburg to Philadelphia.

To Turtle Creek	12
Greensburg	20
Fort Ligonier	19
Stoystown	42
Bryan's foot, Alleghany	17
Bedford	11
Crowings (Juniatta)	14
Fort Littleton	10
Skinner's	13
Strasburgh	3
Shippensburg	10
Carlisle	21
Chamber's Ferry	20
Elizabethtown	14
Lancaster	18
McClelland's	16
Downing's	17
Admiral Warren	10
The Buck	12
Philadelphia	11

No. 58.

From Pittsburg to Buffalo, via Erie.

Duncan's	18
White's	13
Read's	17
Jones' (Forks)	7
Martin's Ferry	16
Meadville	15
Campbell's	8
Culbertson's	8
Waterford	7
Reed's	10
Erie	5
Wood's	9
Canadaway	25
Eighteen Mile Creek	48
Buffalo	18

EMIGRANT'S GUIDE.

277

No. 59.

From Pittsburg to Warren, in the State of Ohio.

	Miles.
Davis' Tavern	4 4
White's on the Ohio river	8 12
Knox's	10 22
Beaver's	7 29
Falls of Beaver	3 32
Greensburgh	8 40
Douglas'	15 55
Youngstown	14 69
Warren (See No. 56.)	14 83

No. 60.

From Pittsburg to Harrisburgh, (the northern route.)

To the Brick Tavern	18 18
New Alexandria	14 32
Armagh	22 54
Ebensburgh	17 71
Munster	7 78
Frankstown	16 94
Alexandria	17 111
Huntingdon	7 118
Weansborough	20 138
Lewistown	10 148
Niffintown	11 159
Millerstown	13 172
To Clark's Ferry	14 186
Harrisburgh	14 200

No. 61.

From Union Town to Morgantown and Clarksburgh.

To Curry's	8 8
Morris, Cross Roads	4 12
Morgantown	13 25
Swearengen	16 41
Hill's Ferry	6 47
Thomas'	8 55
Clarksburgh	10 65

No. 62.

From Pittsburg to Washington City, via Winchester.

To Findley's	9 9
Ginger Hill	11 20
Brownsville	13 33
Union Town	12 45
Slack's	6 51
Clement	6 57
Clark's, forks of ro.	4 61
Smith's, at Bridge	7 68
Bough's	1 69

	<i>Miles.</i>
Simkin's	7 76
Tomlinson's	11 87
Musselman's	10 97
Gwin forks of road	6 103
Crisspatown	4 107
Frankfort	9 116
Springfield	6 122
Coxe's	9 131
Gale's	6 137
Higgin's, Great cr.	5 142
Roger's	6 148
Ronomæ's	3 151
Pewtown	6 157
Winchester	9 166
Charlestown	22 188
Key's Ferry	5 193
Hillsborough	8 201
Lacey's	8 209
Leesburgh	6 215
Hummer's	12 227
Wiley's	10 237
Fall's Church	6 243
Potomac Bridge, (Georgetown)	8 251
Washington City	2 253

No. 63.

From Albany to Buffalo, via Cherry Valley.

Guilderland	9 9
Princetown	7 16
Duanesburgh	4 20
Schoharie Bridge	6 26
Schoharie	4 30
Carlisle	6 36
Sharon	10 46
Cherry Valley	6 52
Springfield	6 58
Warren	6 64
Richfield	4 68
Litchfield	7 75
Bridgewater	5 80
Sangersfield	7 87
Madison	7 94
Morris' Flats	7 101
Nelson	6 107
Cazenovia	5 112
Manlius	8 120
Buffalo, (See No. 64.)	162 282

From Cherry Valley to Cooperstown, 13—Burlington, 11—New-Lisbon, 8—Butternuts, 8—Oxford, 28.

EMIGRANT'S GUIDE.

279

No. 64.

From Albany to Buffalo, by Utica.

Miles.

Schenectady	-	-	-	-	-	15	15
Amsterdam	-	-	-	-	-	15	30
Caughnawaga	-	-	-	-	-	8	38
Palatine	-	-	-	-	-	15	53
Manhalm	-	-	-	-	-	10	63
Little Falls	-	-	-	-	-	10	73
Herkimer	-	-	-	-	-	7	80
Schuyler	-	-	-	-	-	6	86
Utica	-	-	-	-	-	9	95
New-Hartford	-	-	-	-	-	4	99
Westmoreland	-	-	-	-	-	7	106
Vernon	-	-	-	-	-	6	112
Sullivan	-	-	-	-	-	9	121
MANLIUS	-	-	-	-	-	12	133
Derne	-	-	-	-	-	3	136
Onondaga	-	-	-	-	-	7	143
Marcellus	-	-	-	-	-	12	155
Skeneateles, L.	-	-	-	-	-	6	161
Aurelius	-	-	-	-	-	12	173
Cayuga	-	-	-	-	-	4	177
Junius	-	-	-	-	-	8	185
Geneva	-	-	-	-	-	6	191
Seneca	-	-	-	-	-	7	198
Gorham	-	-	-	-	-	5	203
Canandaigua	-	-	-	-	-	4	207
Bloomfield	-	-	-	-	-	13	220
Lima	-	-	-	-	-	5	225
Avon	-	-	-	-	-	5	230
Genesee river	-	-	-	-	-	4	234
Caledonia	-	-	-	-	-	9	243
Southampton	-	-	-	-	-	5	248
Batavia	-	-	-	-	-	12	260
Buffalo	-	-	-	-	-	36	296

No. 64.

The following is a list of Post Offices, on the Great Bend turn-pike, leading from Newburg to Geneva, with the distance from Newburg to each town.

To Ward's Bridge, Orange County	-	-	-	-	-	12
Bloomington, Sullivan County	-	-	-	-	-	11
Monticello do.	-	-	-	-	-	15
Whitelake do.	-	-	-	-	-	8
Bethel do.	-	-	-	-	-	4
Cochecton do.	-	-	-	-	-	9
Mountpleasant, Pennsylvania,	-	-	-	-	-	22
Gibson do.	-	-	-	-	-	13
New-Milford do.	-	-	-	-	-	7
Great Bend do.	-	-	-	-	-	6

	<i>Miles.</i>
Cheango Point, Broome County	15 122
Union do.	5 127
Nanticoke do.	5 132
Owego do.	12 144
Capdor, Tioga County	11 155
Danby do.	11 166
Ithica, Tompkins County	7 173
Trumansburg do.	11 184
Farmersville, Seneca Co.	6 190
Ovid Village do.	10 200
Romulus do.	6 206
Geneva, Ontario County	12 216
On the branch line from Ithica to Auburn,	
Ludlowville, Tompkins County	184
Kingsferry do.	193
Aurora, Cayuga County	199
Indianfields do.	209
Auburn do.	215

No. 65.

From New-York to New-Orleans, via Philadelphia, Baltimore, Washington, Knoxville, and Natchez. See No. 31, page 158.

Paulus Hook	1	1
Newark	9	10
Elizabethtown	6	16
Bridgetown	5	21
Woodbridge	4	25
New Brunswick	10	35
Princeton	18	53
Trenton	10	63
Bristol	10	73
Holmesburg	10	83
Frankfort	6	89
PHILADELPHIA	4	93
Darby	7	100
Chester	7	107
Naaman's creek	5	112
Wilmington	7	120
Newport	4	124
Christina	5	129
Elkton	11	140
Havre de Grace	17	157
Hartford	11	168
Joppa cross roads	6	174
BALTIMORE	19	193
Bridge over Potapasco river	4	197
Vanaville	21	218
Bladensburg	8	226
WASHINGTON	6	232
Alexandria	7	239

EMIGRANT'S GUIDE.

281

	<i>Miles.</i>
Pohike church	111 2431
Ocoquan	5 248
Dumfries	91 258
Aquia	91 267
Stafford	41 272
Falmouth	9 281
Fredericksburg	11 282
Wilders	20 303
Gumspring	12 315
Orange court-house	20 335
Charlottesville	34 369
New-York	20 389
Waynesboro	7 396
Staunton	12 408
Middlebrook	11 419
Brownsburg	11 430
Lexington	13 443
Natural bridge	14 457
Pattonsburg	12 469
Fincastle	14 483
Big lick	14 497
Christiansburg	26 523
Head of the Kenhawa river	14 537
Inglisville on Kenhawa	11 548
Evansham	31 579
Head of Tennessee river	32 611
Bowers	13 624
Kings	16 640
Abingdon	10 650
Blountsville in the state of Tenn.	24 674
Rossville	18 692
Rogersville	25 717
Oresville	22 739
Rutledge	13 751
KNOXVILLE	32 783
* Nashville,	192 975
Natchez,	432 1407
New Orleans, by the Levée, see No. 21, p. 150.	224 1631

No. 66.

From Washington City to Marietta, by Winchester and Clarksburg.

Fairfax court-house	1515
Centreville	924
Goshen	1136
Middleburg	944
Paris	1256
Shenandoah river	460

* The reader will please to correct No. 31, page 156, by adding after Kingston, " To Knoxville, 42 miles."

	<i>Miles.</i>
Millwood	464
Battletown	872
Winchester	678
North mountain	684
Cacapon river	1296
Romney, south branch of Potomac river	30126
Western Port	26152
Aleghany	3155
Youghiogheny river	24179
Laurel mountain	10189
Cheat river	17206
Gandysville, Virginia	6212
Tiger valley river	16228
Clarksburg	28256
Marshville	27283
Ohio river	36319
Marietta	1320

See page 228, article *Marietta*.

The preceding table is the mail route from Washington City to Marietta, and from thence to all the southern parts of the state of Ohio.

No. 67.

From New-York to New Orleans, by the Great Bend in the Susquehanna river, to Hamilton on the Aleghany river, and thence by water.

Newburg	6060
Montgomery	1171
Bloomington	1283
Shawngunk mountains	386
Nevisink river, branch of Delaware	995
Monticello	398
Cochecton, on Delaware river	22129
Mount Maria, Pennsylvania	8128
Bethany	15143
Bridgewater	36179
Union, state of New-York	27206
Nanticoke creek	6212
Owego	8220
Cayula creek	17237
Newtown	15252
Painted Post	17269
Bath	20289
Canistes	17306
Angelica	18324
HAMILTON	30354
Extreme north bend of Aleghany river	20374
Aleghany river enters Pennsylvania	25399
Warren, at the mouth of Couewango creek	20419
Franklin, mouth of French creek	60479
Montgomery Falls	25504

	<i>Miles.</i>
Patterson's Falls	7 511
Parker's Falls	13 524
Mahoning creek	22 546
Sloan's Ferry	14 560
Nicholson's Falls	7 567
Kittanning	7 574
Logan's Ferry	11 585
Kiskimitas river	5 590
PITTSBURG	25 615
Logstown	12 627
Beavertown, one mile below the mouth of Beaver river	10 637
Georgetown	10 647
Faucett's Town	2 649
STEUBENVILLE	25 674
Charleston	7 681
Warren	6 687
WHEELING	7 694
Longreach	42 736
Lower end of Longreach	13 749
Little Muskingum	30 769
MARIETTA, mouth of Muskingum river	4 773
Vienna	7 780
Little Kenhawa	5 785
Blannerhassett's island	6 791
Little Hockhocking river	3 794
Great Hockhocking	6 800
Bellville	4 804
Shade river	7 811
Buffettin's island	6 817
Big Sandy creek	4 821
Letart's Falls	16 837
Point Pleasant, mouth of Great Kenkawa river	30 867
Gallipolis	4 871
Little Guyandot river	16 887
Big Guyandot river	17 904
Great Sandy, eastern boundary of the state of Kentucky, on Ohio river	11 915
Little Sciota river	20 935
Portsmouth, Big Sciota river	10 945
Salt Lick	8 953
Graham's Station	17 970
Adamsville	5 975
Manchester	8 993
Liberty	11 994
Limestone, or Maysville	1 995
Charleston	5 1000
Augusta	1 1001
Columbia, Mouth of Little Miami	32 1033
CINCINNATI, and Newport	4 1037
North bend	16 1053

	<i>Miles.</i>
Great Miami - - - - -	6 1059
Lawrenceburg - - - - -	2 1061
Big-bone-lick creek - - - - -	20 1081
Port William, mouth of Kentucky river - - - - -	30 1111
Westport - - - - -	36 1147
LOUISVILLE, Falls of Ohio river - - - - -	20 1167
Salt river - - - - -	25 1192
Blue river - - - - -	32 1224
Little Blue river - - - - -	12 1236
Sinking creek - - - - -	20 1256
Clover creek - - - - -	10 1266
Anderson's Ferry - - - - -	30 1296
Hanging rock - - - - -	32 1328
Green river - - - - -	30 1358
Henderson - - - - -	21 1379
Diamond island - - - - -	18 1397
Wabash river - - - - -	27 1424
Saline river - - - - -	25 1449
Cave in the rock - - - - -	11 1460
Hurricane island - - - - -	8 1463
Cumberland river - - - - -	35 1498
Smithland - - - - -	3 1501
Tennessee river - - - - -	10 1511
Fort Massac - - - - -	18 1519
Wilkinsonville - - - - -	20 1539
Chain of rocks - - - - -	6 1545
Mouth of Ohio river - - - - -	15 1560
NATCHEZ, see No. 7, page 39 ; No. 27, p. 154 ; and No. 29, p. 156* - - - - -	668 2228
NEW ORLEANS, see No. 7, page 39 ; No. 22, page 151 ; and No. 29, page 156* - - - - -	322 2550

The direct course from the city of New-York, to Hamilton on the bank of Aleghany river, is about 240 miles ; but as yet no direct road exists or any mode of passing between the two places so eligible as by Newburg. The distance from Albany to Hamilton is very near the same as from New-York. Nothing but good roads are necessary to permit travellers to pass from the city of New-York to the western part of the state of New-York, and northwestern parts of Pennsylvania, in as short a time as the same distance can be traversed from the city of Albany.

It will be seen, on inspecting the last route, that the length of the Ohio is only 945 miles. Hutchins made that river 1188 miles ; and most itineraries of the United States have the latter distance inserted. From actual survey of its banks, the Ohio measures within a trifle of the amount given in this table.

* The reader will please to correct No. 29, p. 156, by adding 20 miles to each aggregate distance below the mouth of Ohio. The real river traverse, from St. Louis to New Orleans, is 1200 miles.

The length of the Mississippi below the mouth of Ohio, is 1095 miles; making the entire river distance, from Pittsburg to the mouth of the Mississippi, 2040 miles.

No. 68.

Much attention has been given to the two projected canals to unite the Hudson river with lakes Erie and Ontario, towards the west, and with lake Champlain and the St. Lawrence river to the north of the city of Albany. Like all great designs, the promulgation of these works excited much speculation and but little investigation. The practicability or impracticability of such immense plans, have been adopted rather from feeling than examination into the ratio of means to ends. Without entering into any discussion on the subject, we beg leave to present our readers with the following syllabus of the Western Canal, compiled from the Report of the Commissioners who were employed by the Legislature of the State of New-York to superintend the survey of the intended route.

It may not be irrelevant to give a recapitulation of the peculiar position of the country between Albany and lake Erie. In our notice of the region comprised in West New-York, the peculiar features of the country are described, but perhaps not sufficiently explicit for the present purpose.

The intended route of the Western Canal traverses two slopes and one valley. The first slope is from Albany to Rome.

The distance from Albany to Rome, is one hundred thirteen and a quarter miles, following the canal, rising by an acclivity of four hundred nineteen and one-third feet, from tide water in Hudson to the summit level near Rome.

A short distance west of the latter village, a valley commences which reaches to Batavia, near the sources of the Tonnewanta creek. This valley contains the Oneida, Seneca, and Genesee rivers. The Oneida and Genesee rivers flow rather across than down the valley. The Genesee traverses it nearly at right angles to the two former streams.

Near Batavia commences the western, or lake Erie slope. The Canal Commissioners have marked two routes from the Tonnewanta creek to the Genesee river, designated in their Report by the relative terms "North and South routes." After detailing the distances and expense of the south route to the Genesee river, the Commissioners annex to their Report the following note:

"*Note.*—The route of the canal, south of the mountain ridge, will here intersect the route north of that ridge. The distance from Buffalo to the point, eleven miles up the Tonnewanta

creek, is	27 miles,
From that point to the Genesee river, on the north	
route,	72 10 1-2 hrs.

The whole distance in that direction is 99m. 10 1-2cb.

The distance in the direction south of the ridge is supposed to be 92 miles. The whole expense, from Buffalo to the point, eleven miles up the Tonnewanta, including a proportionate part of the allowance for grubbing, superintendence, &c. as estimated in Mr Peacock's

section, is \$205,877. The whole expense, from that point to the Genesee river, as estimated on Mr. Geddes's section, is as follows: Whole expense of excavation, for 6 miles and 42

chains,	\$401,271
Total amount of extras, thence to Genesee river	224,378
Expense of each mile, after all extras are calculated, for 65 miles 48 1-2 chains, at \$2250, (for which allowance see a subsequent part of the Report)	147,611
On this sum	\$773,260
Add for contingencies, 5 per cent.	38,663
For superintendence, draining, and fencing, at the rate of \$1000 per mile for 72 miles and 10 1-2 chains,	72,125
The total amount is	\$884,048
Which added to the expense from Tonnewanta to Buffalo, above stated,	205,877

Makes the aggregate cost of the canal from Buffalo to the Genesee river, on the north route, \$1,089,925
On the south route, this cost is estimated at 780,000

Leaving a balance of expense in favour of the south route, by these estimates, of \$309,925."

The routes both pass from lake Erie to the central valley; the north route is not intended to rise above the level of lake Erie; the south route is more direct, but rises seventy-five feet above the level of lake Erie, at a distance from that lake of sixty-two miles. The point where the summit level is attained in rising the acclivity of the lake Erie slope, is the most elevated part of the intended canal, being twenty-six and a half feet above the level, near Rome.

The distance from lake Erie, by the northern route, to Seneca river, is about 170 miles, with a fall of 194 feet. If an artificial river was formed without locks, crossing Genesee river by an aqueduct, the fall per mile would be something less than fourteen inches. The possibility exists of conveying a part of the discharge of lake Erie, down the Seneca and Oswego rivers, into the south-east part of lake Ontario.

SYLLABUS OF THE WESTERN CANAL.

	Distance in Miles.	Expense.
From lake Erie to a point upon the Tonnewanta creek	27	\$ 205,877
Tonnewanta to Seneca river	136	1,550,985
Seneca river to Rome	77	853,186
Rome to Schoharie creek	71½	1,099,603
Schoharie creek to Albany	42	1,106,087
General contingencies	-	75,000
Aggregate of distance and expense	353½	4,881,738

<i>Rise and Fall.</i>	<i>Feet.</i>	<i>Locks.</i>
From lake Erie to Seneca river, a fall of - -	194	25
Seneca river to Rome, a rise of - -	48 ¹ / ₂	6
Rome to Schoharie creek, a fall of - -	133 ² / ₃	16
Schoharie creek to Albany, a fall of - -	286	30
The aggregate rise and fall is - -	661 ¹ / ₂	77

Lake Erie is 56 feet higher than tide water at the city of Albany ; and 145 feet higher than the summit level at Rome.*

The following Extract from the Report of the Commissioners, is a Recapitulation of the route, distance, necessary labour, and expense of the Northern Canal, to unite the Hudson with Lake Champlain.

"The examination and levels for this canal, have been made under the direction of the commissioners, by Col. Lewis Garin, and the line for the same has been marked out upon the maps herewith presented. There are two places of departure from the Hudson, in order to connect that river with Lake Champlain, each of which affords a very favourable route, in point of soil, to be excavated, and of materials for the artificial works. One of these routes, by commencing at the mouth of Fort Edward creek, and pursuing the valley of that creek to the summit level, and then following the ravine of Wood creek, will reach Whitehall in the distance of twenty-two miles. This route was formerly deemed most eligible by a board of commissioners composed of general Schuyler and others. It is, however, supposed, by the engineer, that the other route may be preferable, which commences about six miles further down the river, near the mouth of Moses' kill, and which, by the natural channel of this kill, and of Dead creek, joined to a short length of artificial canal, forms the summit level from whence it proceeds—partly by the natural channel of Wood creek, and partly by artificial cuts, which greatly shorten the distance to Whitehall. The length of this route is twenty-eight miles, and it passes over a soil which is, in general, remarkably favourable, consisting principally of vegetable mould, loam, and clay. As the northern termination of the canal, a few yards of limestone excavation will be necessary ; this, however, is not deemed an unfavourable circumstance, as the stone are of such a quality as will be useful in the construction of locks, and it may be remarked that the materials for the construction of the locks between Lake Champlain and the Hudson can be procured with little difficulty."

Between the Hudson and Lake Champlain nine locks will be necessary, viz. three at the Hudson of 7,779 feet lift each, by which the summit level will be attained, and by a deep cutting the greatest depth of which will be 12,465 feet, and the length of which is about two miles ; the summit level will be extended fifteen miles, and will terminate about one mile south of Fort Ann. At this place two locks will be necessary of 6,217 feet lift each. Between this point and Whitehall, two locks, the first of 8,223 feet lift, and the next of

* Commissioners Report, pages 87 and 88.

9,243 feet lift, are to be made. At Whitehall, the canal is to be connected with Lake Champlain by two locks of 8,550 feet lift each.—About fifteen miles of this route will need no excavation, as the canal for that distance will occupy the natural channels of Moses' kill, Dead creek, and Wood creek. In order to turn off as much as possible the superfluous waters of freshets, and to ensure at all times a sufficiency of water on the summit-level, it is proposed to erect a dam across Half-way brook of eighteen feet in height, half a mile above the mouth of the said brook, and by a natural ravine leading to the south, to direct so much of the water of said brook to the summit-level, and from thence by several waste-wiers, into the Hudson, as may be necessary for the convenience of the canal.

The water in the canal is not to be less than thirty feet wide at the surface, twenty feet at the bottom, and three feet deep, and the locks to be seventy-five feet long and ten feet wide in the clear.

By the mode of calculation heretofore adopted by the commissioners, the whole expense between Lake Champlain and the Hudson, at the mouth of Moses' kill, will not exceed two hundred and fifty thousand dollars.

From the mouth of Moses' kill it is proposed to improve the channel of the Hudson for the purposes of navigation as far south as the village of Stillwater at the head of Stillwater falls. This may be effected in the following manner. By erecting a dam of three feet in height across the Hudson, at the head of Fort Miller falls, the river above as far as Fort Edward, would at all times afford a sufficiency of water for boats drawing three feet. To overcome the descent of Fort Miller falls, a side cut or artificial canal of about one mile in length, and with two locks of 10,321 feet lift each, will be necessary.—These works, including the dam, locks, excavation, towing path, and all other expenses, may be estimated at fifty thousand dollars.

Two and a half miles below the south end of this canal, at the head of Saratoga falls, a dam three feet in height is to be made across the river, and a side cut round the falls similar to the above, of about one mile in length, with two locks of 6,198 feet lift each. It is believed that all the artificial works at this place may be constructed for thirty-five thousand dollars.

Thirteen miles below this place, at the head of Stillwater falls, another dam, of three feet in height, will in like manner ensure a good boat navigation up to the Saratoga falls.

The cost of this dam, the construction of a towing-path, with several bridges, the purchase of Schuyler's mill, which it is supposed will be necessary, together with all the other expenses of this section, are estimated at fifty thousand dollars.

From the village of Stillwater at a point above the dam last mentioned, it is proposed to cut an artificial canal to the village of Waterford, where it is to be connected with the Hudson. This canal will be supplied with water from the river at its upper end. Its length will be nearly twelve miles, and the whole descent is 76,464 feet: which will require eight locks. The excavation of this canal for some distance near the upper end, will be considerably expensive,

as it passes through a slate rock ; the middle and lower parts, however, are very favourable.

The expenses from Stillwater to Waterford, may be estimated as follows :

76 feet lockage at \$1000 per foot,	-	-	76,000
12 miles of excavation and towing-path with bridges, culverts, and other necessary works, at an average of \$30,000 per mile,	-	-	360,000

RECAPITULATION OF EXPENSES.

From Whitehall to the Hudson,	-	-	\$250,000
Dam side cut, and other works at Fort Miller falls,	-	-	50,000
Do. at Saratoga falls,	-	-	35,000
To Stillwater, including dam, &c.	-	-	50,000
From Stillwater to Waterford, including lockage,	-	-	436,000
Add for contingencies, engineers, and superintendence,	-	-	50,000

Total, \$871,000

Whether the canal from Lake Champlain enters the Hudson at Fort Edward creek or at Moses' kill, is not very material in the estimate of expense ; and the commissioners wish to be explicitly understood, that they consider the question as still open, and as one which will require mature deliberation. It is ascertained that both routes are equally practicable.

ADVICE TO EMIGRANTS.

All instruction that can be given under this head, must be more particularly addressed to Europeans than to citizens of the United States. Each are, when removing over the Alleghany mountains into the Ohio or Mississippi valley, passing into a region, to the physical laws of which they are strangers; but the citizens of the United States, if ignorant of the natural features of the seasons or soil, possess an adequate knowledge of the moral and political institutions of our states and territories. Though some minute shades of difference exist between the municipal regulations of all our territorial subdivisions, yet so much sameness prevails in the general structure, that the intelligent man of New England does not find himself a foreigner or a stranger in Kentucky, Tennessee, or even Louisiana.

The European, however well informed upon general subjects of jurisprudence and civil government, has, on his arrival in America, much to learn, and in most cases much to *unlearn*. The natives of the British islands, from the similarity of the government under which they have been educated, and that of the United States and the individual states, ought to be best prepared to enter easily into a full comprehension of the true genius of our political and moral constitutions. It has been seen in practice, that a great difference exists between the opinions formed by the latter class of emigrants, of our institutions, and the real nature of those institutions, than could be at first view of the subject thought possible. No doubt the resemblance between the judicial establishments of the two countries has been considered too exact, and it is also doubtless in the latter particular, where the institutions of the United States are most in unison with those of their political parent.

It is to men who remove to the United States with intention of becoming citizens thereof by actual settlement, and complying with the regulations necessary for their adoption, that these observations are addressed.

We would most earnestly recommend a sedulous attention to the study of the constitution of the United States and of the individual states; as also the ordinance of 1787, under the provision which almost all of our territories are governed.

The constitutions can be had in one volume for one or two dollars: The better to understand the nature, scope, design, and tendency of the constitution of the United States, a work written by Mr. Madison, Mr. Alexander Hamilton, and Mr. John Jay, entitled the *Federalist*, ought to be carefully read by every stranger, on or before his arrival in this country, and indeed by every native inhabitant of the United States. A new and neat edition of this very valuable mass of documents has lately been given in Philadelphia, by Mr. Benjamin Warner.

Upon the individual constitutions, no good general commentary has been given; but they however speak in plain language for themselves, and but seldom admit of ambiguity in their provisions.

The greatest and far the most serious difference that exists between the rights secured to or surrendered by the people, in the formation of our various constitutions, is that of the right of suffrage. In some states the qualifications of voters are founded upon wealth, and in some others upon the payment of taxes. In some states there exist restrictive disqualifications unknown in others. The qualities necessary to give a title to be chosen, differ also in many very essential points. All these strong outlines ought to be known by every person of even tolerable information who designs to become a citizen.

A correlative duty to the foregoing is to use the proper steps to gain a general knowledge of the great geographical features of the country, and as minute detail of the political divisions as possible. Though commonly thought easy, this is a task of no common weight. From all that we have seen of the geographical delineations of the United States, published in Europe, the most gross errors in science and in moral deduction abound. We do not exclusively allude here to the wretched tour-writer, whose pages are at once a libel on the United States and a stigma upon the writer, but to the most respectable publications of Europe, on the geography and topography of America.* In Neel's Atlas, 1814, there is a New-Jersey on the Mississippi, an Indiana in Virginia, and a Franklinia in East Tennessee. The same want of common precision pervades all the works on the subject, published in either England, France, or Germany, which have found their way into our libraries, colleges, schools or book-stores.

The emigrant, whose information has been derived from defective sources, must of course labour under the effects of the inaccurate materials from which that information was drawn. Every individual must, to gain a true knowledge of the various parts of the United States, resort either to Europeans who have travelled in the country, or to native writers. All that can be gained from most of the former class, is worse than absolute ignorance. As we do not wish to harass the feelings of our readers with a repetition of the names of men, who have repaid hospitality with abuse, and who have given a finish to their characters by placing ingratitude on the foreground of a picture that no other crime could shade, we will leave these authors to the indignant contempt of this entire nation, and the scorn of the generous and just of every other.

Since the completion of the American revolutionary war, several Europeans have visited the United States, whose minds were too elevated to permit them to become libellers, and some who desired to describe faithfully without either expressing blame or panegyric. From such writers much useful knowledge can be gained. The Marquis Chattellux, Brissot de Warville, and Volney, were of this class. Their writings contain many valuable facts, upon the manners and customs of the people of the United States, and upon its soil, climate, and productions.

* See page 4, of this Treatise.

The first travels from an author of the British islands, that has met our observation, which had candour and good will towards the people and their government as its basis, was Melish's travels, published about five years past. This work, though rather verging towards panegyric, contains much really useful information; and possesses that one essential requisite of fostering kindness between foreigners and natives.

The late work of John Bradbury deserves the highest commendation. The geographical descriptions are correctly made; but its chief merit to emigrants is, the excellent advice it contains for the regulation of their affairs and conduct on their arrival, and during the first period of their settlement in America. Many of the injunctions of this benevolent author are of the greatest import, and none we believe are either deceptive or useless. Perhaps, no traveller, in the region visited by Mr. Bradbury, can be read with more advantage.

Alexander de Humboldt was a traveller of no ordinary cast: his mind was enlightened by science, and elevated by an intercourse with polished society; and as he travelled this continent under all the advantages of wealth and education, and in the Spanish colonies under the safeguard of royal protection, his information is of the utmost value to those who desire an extended knowledge of the various features, metallic, vegetable, and animal productions of America.

Of native writers upon the states east of the Alleghany mountains, there have been several of great merit; but as the scope of their descriptions do not in general reach the regions more particularly embraced by this treatise, an enumeration of their names can be of little interest to the reader.

Jefferson's Notes on Virginia, in addition to the valuable topographical matter it contains respecting a part of West Virginia and Pennsylvania, affords sound information upon the climate, soil, and productions of the middle states.

Drake's Cincinnati, a work often cited in this treatise, cannot be read too carefully by emigrants to Ohio and Indiana. This excellent performance gives the only collected mass of statistical matter extant, respecting the centre of Ohio valley.

Stoddard's Louisiana is a good collection of valuable documents, and can be read with advantage when seeking information respecting the now state of Louisiana or the Missouri territory.

Brackenridge's View of Louisiana is a work of great merit; the information it contains is the fruit of a mind cultivated, liberal, and observing. The three latter have all written their respective works during the last ten or fifteen years, from actual observation. Each travelled the ground described; they were men of respectable characters, whose assertions are entitled to the respect due to veracity. Mr. Stoddard is no more; he fell in the cause of his country during the last war; the other two are yet enjoying the vigour of life.

Schultz's Travels contains some useful information; and as far as we have been able to compare his descriptions with the objects in nature, they are faithfully if not strongly painted.

The work, however, that of all others contains the greatest mass of detached geographical and topographical facts, is Cramer's Ohio

and Mississippi Navigator. No person who navigates those streams ought to be without this cheap and excellent work. Zadoc Cramer, the original author, was a man whose mind was the seat of truth, and whose days were spent in usefulness.

Darby's Louisiana is the only statistical work extant, which treats exclusively upon the regions included within, and lying contiguous to, the Delta of the Mississippi river.

Brown's Western Gazetteer contains a fund of information useful to emigrants. This work may be consulted with safety in all points, where the author speaks from his personal observation.

Killbourn's Ohio Gazetteer, being arranged alphabetically and written with evident attention to correctness of facts, affords a good manual for that state.

Of geographical works professedly, there exists but one on America, written by a native, Morse's Geography, published in 1796, and republished in numerous editions since. This work contains an immense document, and ought not to be neglected by those who desire ample knowledge of the various parts of the United States. It is to be regretted, however, that the usefulness of the only geography we possess from the pen of a native, is very much diminished by national and colonial prejudices; the opinions upon the character of the people of the southern and middle states ought to be received with caution.

Four large detailed maps of the United States have been recently published, by Bradley, Lewis, Melish, Shelton, and Konsett. Upon each the physiognomy of the United States is marked with sufficient precision to yield a good general knowledge on the subject. Melish's map, extending to the Pacific, and south to the Spanish provinces, gives a more extended view of the central parts of this continent than any other map extant.

With all the maps and descriptive works that can be procured, no emigrant ought ever to purchase land, or make arrangements for permanent settlement, before viewing the place where his purchases or settlements are to be made. The most that reading can do in favour of the emigrant, is to prepare his mind with more clear ideas of the means to form a judicious selection. Another necessary precaution is, to always distrust the information of persons offering lands for sale. Inquiries ought to be carefully made respecting the seasons, climate, diseases; and made as much as possible from persons whose interests are not engaged on the side of a too favourable representation.

Most men on arriving in the United States, expect too much. Perhaps the only essential advantages offered, are the security of person and property, and the cheapness of land. It demands excessive labour, severe economy, and exemptions from extraordinary accident, to succeed in a newly settled country; and it demands the permanency of this suit of labour, prudence, and favourable circumstances. In West Pennsylvania, West Virginia, in Kentucky, and in Ohio, where the establishments have continued a sufficient length of time, the emigrant will find innumerable instances to stimulate his exertions. Many persons of good character and intelligence, reside there at this

moment, who have crossed the Alleghany mountains within the last thirty-five years, "*the world before them and Providence their guide,*" who now repose in ease with flourishing families around them. The emigrant who now traverses those mountains has no savage warfare to appal him. The first race of men who entered those wilds smoothed the path for their successors, often at the expense of their lives. What once demanded almost superhuman bravery, now only demands persevering industry, and honest sober habits. A great proportion of the entire number that now reside in the Ohio and Mississippi valleys, are persons who carried with them little more than experience in their respective pursuits, and who have created their fortunes by their labour and ingenuity. This is not particularly the case with agricultural men; it forms the basis of the private history of all classes of society. The consequence of necessary exertion has been to form a race of active, laborious and enterprising men, equal to any that the world has produced. The vast scale upon which the merchants and farmers of the Ohio and Mississippi valleys perform their operations is indeed expansive. It will be seen that from Pittsburg to New-Orleans is about two thousand miles, and also half that distance from the junction of Ohio and Mississippi to the latter city. Yet great numbers of the farmers are their own factors at so distant a mart.

The commencement of their course of business is, properly speaking, in autumn, when their grain is put in the earth. As soon as seeding is finished, preparations are then made for converting into flour or whiskey their small grain, in fattening their pork, and, in fine, collecting for market the various staples, and in building boats for the transportation of their property down the rivers to the mart of sale. In this manner autumn and the beginning of winter is consumed. As soon as the spring freshets open the rivers, these navigators commit themselves and the fruits of their fields to the current, and in due time float to Natchez or New Orleans; dispose of their cargoes, and purchase a horse, and return home by land. Every one is anxious to complete his voyage in time to return to his farm by harvest, which two-thirds effect.

The same routine is again pursued, and thus while some members of a family are as high as the 41° north lat. tilling the ground, others are distant eleven degrees of latitude disposing of their joint property. So easily do men accommodate themselves to the operations of this wide field of action, that many who, in their native country, considered thirty or forty miles a very serious journey, will in a few years after passing the Alleghany mountains, converse familiarly upon a voyage of two thousand miles from home, and a journey of twelve hundred to return.

One of the most valuable results of the distant voyages and journeys made by so many, is the infusion into society of an extent of topographical knowledge no where else known on earth. There is no exaggeration in declaring that no people in the civilized world can, in an equal population, produce so many men who possess general and detailed knowledge of a space so immense.

Most of the traders are well disposed to communicate to strangers

such information as they possess, and very few are disposed to deceive. They are, in fact, a bold, open, intelligent, and candid body of men. They are the links of a chain of extensive communication. Like all other men of the west, the farmers and traders have a peculiar apparent carelessness of manner, which strangers, even from the eastern side of the Alleghany, are very apt to mistake for want of attention to those who address them. The fact is far otherwise: often when the traveller is thus thrown from his guard, he is in the presence of a man who penetrates the inmost recesses of his soul, and who will recount to his companions the very train of reflection passing in the mind of the stranger during this inspection.

One of the greatest and most fatal faults committed by Europeans when in this, as they term it, verge of civilized life, is undervaluing the inhabitants. It is in many respects a very natural result of the accounts published and read in Europe. One traveller, who, between New-York and Philadelphia composed two large volumes on the general characteristics of the United States, very gravely informs his readers, that in receding from those cities, the scale of civilization lowers, until upon the Ohio and Mississippi the savage state commences. Though it can hardly be supposed that many persons can be dupes to such representations, yet, from their tenor, prejudices must follow in the minds of those who read them. It is against the consequences of such ill-judged colouring we now wish to guard the emigrant. These calumnies do very little harm to the objects, but are extremely mischievous to those who travel the interior of the United States under their influence. Hatred and contempt are plants of easy growth, and very difficult to eradicate when once rooted in the human heart.

With a good personal character and suavity of manners, it is almost impossible for any man to reside three months on the western side of the Alleghany mountains without finding employment sufficient to provide for his subsistence. Every man who carries with him those requisites will find a kind welcome every where, and a disinterested advice in most intelligent men he meets.

All trades are wanted, especially those necessary for the supply of the most pressing wants of new settlers, such as carpenters, masons, smiths, wheelwrights, tanners, curriers, tailors, shoe-makers, hatters, saddlers, and cabinet makers.

Mere labourers, however, who possess no handicraft, are as certain of employment as any class of men; so great is the task of clearing land, ploughing, sowing, reaping, threshing grain, and other business of husbandry, that all men can find work, who are disposed to gain an honest and virtuous subsistence. To the latter, and to common journeymen mechanics, we desire to point out a rock, that, as they value future reputation and happiness, must be avoided;—it is the idle waste of Saturday afternoons in play, or what is worse, in the grog-shop. Why this part of time should be so unprofitably thrown away as it is, it would be difficult to explain; but the facts are too numerous to be doubted. Thousands who labour, attentively, through five and a half days, lose the fruits of their toil and their peace of mind in the other half, and rise upon the morning of the true

day of rest much more inclined to repeat debauch, than to perform the sacred duties, that all laws, divine and human, have imposed; duties, that to perform, is to secure the highest enjoyment of which our nature is susceptible.

Let the poorest young man of from twenty to thirty years of age, who finds himself in the theatre we have under our view, only turn his eye towards the different members of society, and at every glance he will find men in different circumstances, who, at a similar age with his own, had no other patrimony but health of body and mind, and who experienced no other good fortune but the effects of well-conducted labour. If from Europe, he will find nothing of the hauteur of high life, towards men who are engaged in honest industry. He is there relieved from that depression of heart that arises from contumely; "the proud man's scorn." Treated as a party to a fair contract, and not as a dependant, his mind expands, his nature becomes daily more exalted, and feelings and virtues arise in his soul of which he had no previous conception.

Many will say that these observations can only apply to the people of the states and territories where slavery is prohibited. That is, however, not the fact; a residence of sixteen years in places where slavery is prevalent, enables us to contradict a general expression, that in such places, whites, performing manual labour, are confounded in the moral estimates of the people with slaves. Though less respect is certainly paid to useful labour in the slave states than where all the duties of life are performed by the whites; yet the distance between the two races of men are in all cases immense. So deep, profound, and inveterate is the feeling on that subject, that not any where in the United States, can property, sobriety, intelligence, and every other advantage, except colour, raise in public opinion a man the most remotely allied to the African, to a rank equal to the meanest white. Any person who resides a few years in Louisiana will be witness to some very remarkable exemplifications of this innate contempt for all those whose affinity involve them in the contumely heaped upon men degraded by slavery.

Some of the most wealthy planters in the two states of Louisiana and Mississippi have made their outset as mechanics. They are now respected, in exact proportion as their conduct merits. There exists no country where skilful mechanics, particularly carpenters, blacksmiths, millwrights, bricklayers, and tanners, have a more fruitful field before them than in Alabama, Mississippi, and Louisiana. If attentive to the duties of their professions, they incur no risk of being confounded with any class of men but the virtuous and the honest.

One circumstance alone can degrade the white man in any part of the United States, to a level with the slave; that is his own moral dereliction. It is this source from which has flowed almost all the supposed contempt experienced in the southern states by labouring men.

The whole of these admonitory lessons may be summed up in few words; that with caution, temperance, honesty and industry, most

men will not only secure competence, but wealth, in any part of the valleys of Ohio and Mississippi.

The lessons that can be given respecting health would be in great part a repetition of what has, or might be, said on the subject of wealth. There is one circumstance in the former case but little connected with the latter; that is, exposure to night air. In all places in the United States south of Tennessee, and in summer, in many places north of that state, night air is extremely deleterious. Travelers unacquainted with the peculiar circumstances of these regions are apt to neglect, or are uninformed what proper precautions to take to provide for their own safety.* Man is so constituted as to compel him, in order to enjoy a healthy state of body or mind, to sleep one-third his time; and any circumstance that deranges this natural course for any length of time, superinduces pain and disease. We are persuaded that no little of the ordinary mortality prevalent upon the banks of the Mississippi and its confluent streams, arises from undue exposure to night dews and want of rest. Regimen must be left to the habits, temperament, and pursuits of the individual; no advice from another, or even rules adopted personally, can be undeviatingly pursued.

Perplexity of mind often leads to disease. We have been forced to witness some fatal instances where death could be traced from disappointed hopes. In no country has so many instances of those unfounded inflations of mind been exhibited, as in the countries we have reviewed in this treatise. As every extravagance of expectation has been fostered, the chagrin that follows failure must be in proportion to the warmth which hopes of success have been cherished.

Circumstances of bitter regret sometimes happen where the sufferer has been guilty of no other fault than credulity. Land purchases are abundant, where the purchasers struggled for life against the effects of one ruinous step. The causes are numerous why emigrants, particularly Europeans, ought to proceed with the utmost caution in the purchase of landed property. If the purchases are made from the United States' government, no apprehension need be indulged respecting title; but great care should be used in choosing the spot. The advice of persons long resident ought to be taken as it respects advantages of commerce, agriculture, health, and other local conveniences.

If the purchase is made from private persons, too much care cannot be used in conveyance. In the state of Louisiana and Missouri territory, landed estate is tacitly mortgaged for its own price,—consequently, it becomes the imperative duty of a purchaser to ascertain that the payments have been made upon former sales, and that the chain of title is clear from the first grantee to the seller.

The most radical fault committed by emigrants respecting land, is, the purchase of too much, and the investment of capital in that manner, which could be much more beneficially employed upon the complete cultivation of a lesser quantity. The probable rise in the price of land is no excuse for this error. Where one man has gained

* See page 40 of this Treatise.

by the augmentation in value of land, fifty have become rich by its fruits. The grasping at wide spaces of soil is a natural consequence of the great expanse upon which men exist in new settlements. The accumulation of land assumes the madness of avarice. Land is possessed not from any prospect of cultivation, but from vanity.

So prevalent is the foregoing propensity in the western states, that many persons are ingulphed unwarily, who would, upon mature reflection, severely condemn their own inadvertence. It may not be thought probable, but is nevertheless a fact, that within the last twenty years no subject has been more productive of ruin, to the people of the western states, than indiscreet land purchases.

The farmer, who with a moderate capital and a family, ought to prefer a small, fertile and well situated tract as his place of beginning. His surplus ought to be appropriated to improvement, and will if judiciously applied produce more and in a shorter time than if vested in superfluous landed estate.

To men who remove into the western or southern estates with money, this is a rock of temptation upon which they are very liable to be dashed. So many have involved themselves by purchasing land, that every lure is laid before the monied emigrant to induce him to relieve, by his purse, embarrassments created by the very folly he is now solicited to commit.

It might be expected that something ought to be addressed to professional men. There is, however, but one observation that can be made as respects either of the learned professions, that they have the same chances of success as other classes in society, if removing to the westward. The same perseverance, attention to their respective duties, and superiority of talent, which ensures superiority in other pursuits, will produce the same effect with the lawyer or the physician. We can only say, we have never known an individual fail, from Pittsburg to New-Orleans, in either of the two latter professions, who deserved to prosper.

To merchants nothing need be addressed. The nature of mercantile transactions are nearly the same in all places.

In enumerating the list of authors who have written upon any part of the Ohio and Mississippi valleys, it may excite some surprise to find the list so small; but it would have been difficult to enlarge it, without including names that, to speak charitably, would convey no useful information.

A Recapitulation Table of the extent of Surface and Population at the end of 1817, of the Territorial Divisions embraced in this Treatise.

Territorial Divisions.	Square Miles.	American Acres.	Sq. Miles to 1817.	Sq. Miles in 1817.	Population 1817.
Alabama Territory,	45,500	29,180,000	13,500	25,000	40,000
State of Louisiana,	49,230	30,990,900	13,230	35,000	130,000
Province of Texas,	240,000	153,600,000	6,000	225,000	10,000
State of Mississippi,	44,500	28,480,000	8,000	36,500	40,000
State of Tennessee,	40,000	25,600,000	25,000	11,000	340,000
Part of North-Carolina,	2,400	1,530,000	2,400		25,000
State of Kentucky,	39,000	24,960,000	30,000	9,000	560,000
Missouri Territory,	98,600	63,104,000	15,000	83,600	50,000
N. W. Louisiana,	560,000	358,400,000		560,000	
Illinois Territory,	51,000	32,640,000	10,000	41,000	25,000
State of Indiana,	36,640	23,448,800	12,210	24,000	100,000
State of Ohio,	40,000	25,600,000	20,000	20,000	280,000
West Virginia,	38,700	17,082,000	20,000	6,700	120,000
West Pennsylvania,	16,500	10,560,000	12,000	3,500	202,000
West New-York,	30,000	12,800,000	15,000	5,000	250,000
Michigan Territory,	27,000	17,280,000	5,000	20,000	7,000
N. W. Territory,	147,000	94,080,000		200,000	
	1,482,000	949,180,400	205,530	1,323,730	2,220,000

REMARKS.

The immense extent of territory noticed in this Table, amounts to near two-thirds of all Europe; the whole is temperate latitudes, and in great part productive soil. A frightful uninhabited void appears, which exceeds the six-sevenths of the entire surface. Though only approximate results could be drawn from the imperfect document, we are inclined to believe, that the proportions between the inhabited and uninhabited parts are nearly correct. The population of the various political divisions have been given from estimation as correctly as in our power, the increment made by births and emigration since 1810, and we flatter ourselves, therefore, approaches to nearly the amount.

If taken upon the entire surface, the present population of this vast region is about one and half person to each square mile; but if on the inhabited part, there is about eleven persons to each square mile.

If peopled only equal to the State of Ohio, at present, or about nine persons to the square mile, the entire population would be 13,748,940. In the Table in page 3, the Columbia valley is included under the head of Missouri Territory; but in this table the Columbia valley is excluded.

[The text in this block is extremely faint and illegible due to the quality of the scan. It appears to be a multi-paragraph document.]

APPENDIX.

We have in great part preserved the articles that compose this Appendix in their original form, as the authenticity of the information must remain supported by the credibility of the various sources from which it is drawn. We have presented to the public the different representations as we received them.

No. I.

FORM OF A SPANISH COMPLETE GRANT.

(Requete, or Petition.)

TO HIS EXCELLENCY BARON DE CARONDOLET, GOVERNOR, &c.

Your petitioner sets forth, that, having a family of twenty whites, possessing forty slaves, with a quantity of cattle, he wishes to form an establishment upon the waters of the Mermentau river; prays your Excellency to grant him, in the name of his Majesty, the King of Spain, whom God long preserve, forty arpents of land, with the ordinary depth, &c. extending from Pointe L'Ouest, up the river.

Opelousas, May 7th, 1795.

SURVEYOR OR COMMANDANT'S CERTIFICATE.

I do hereby certify that the land as prayed for as above, is vacant and appertains to the domains of the King.

By me

JAQUES —

ORDER OF SURVEY.

We, Francis Louis Hector, Baron of Carondelet, &c. do order the Surveyor Jaques —, to survey for and put in possession, the above named petitioner, of the land as prayed for, without injury to persons, previous grants, &c.

New-Orleans, June 9th, 1795.

B. C.

I do hereby certify, that, in my proper person, on the 13th day of August, A. D. 1795, that I Jaques —, did transport myself to the land prayed for in the within (requete), and in the presence of Louis

Ramelle and Guillaume Olivier, I did survey for and put in possession of the said petitioner W. Z. R. the said forty arpents of land, beginning, &c.

Signed —

PATENT.

We Francis Louis Hector, Baron de Carondelet, &c.

Then follows the terms of the Patent, sometimes specifying, as condition of the tenure, the keeping up roads, bridges, &c. nominal in most cases.

The mode of obtaining a complete title was circuitous in the extreme. After the commandant's certificate was annexed, the paper was then transmitted to New-Orleans, and laid before the governor, who endorsed the order of survey. It was then returned to the district for survey. After survey, again remitted to New-Orleans for final completion by grant.

No. II.

Canals have been projected to unite the head waters of the Illinois with the Lake Michigan. The country near the sources of Illinois is very imperfectly known; and some reports respecting it are not easily reconciled with the features of other adjacent parts, which have been more accurately surveyed.

The sources of the Wabash and Maumee rise in a high table land. The Wabash flows in a rapid stream, without falls, to the Ohio; but the Maumee, before reaching the western extremity of Lake Erie, is precipitated over extensive cataracts.

Reports have been made, stating that canoes had passed at high water from Michigan into Illinois; if so, the valley of the latter must be very much lower than that of either the Wabash or Maumee rivers, or the surface of Lake Michigan greatly elevated above that of Lake Erie. All the difference of level that can exist between the two latter lakes, can bear no proportion to the difference between the country near Fort Wayne and the water in Lake Erie. Therefore, if so easy a communication can be effected between Lake Michigan and Illinois river, the latter must flow in a very deep valley, when compared with the region to the east of its source. If a canal without locks can be formed to unite the latter lake and river, it will be the only one of the kind that nature admits in the interior of this continent.

In point of direct utility, a communication between Lake Erie and Wabash, would be of infinitely more importance than a similar work to unite Michigan and Illinois. Calculating from common experience, it would be rational to conclude, that roads, bridges, and canals, ought to follow, not precede, civilized settlement.

Since the preceding article was in type, we received through the medium of the public prints the following information, which we have thought worthy of insertion, as tending to confirm the fact of a communication between Lake Michigan and Illinois river.

"Piqua is situated near the centre section of Miami County, Ohio; it is laid out on a beautiful eminence on the west bank of the Great Miami river, about sixteen miles from the Indian boundary line, which bounds the county on the north and Champaign county on the east, Montgomery county on the south, and Clark county on the west. The soil of this county is not surpassed by any in the state in fertility, yielding in abundance all the different kinds of grain usually cultivated in the western country. Piqua has been laid out as a town since the year 1807, and now contains several buildings that would not dishonour Lexington. Besides the stores, &c. there is a grist-mill and two saw-mills in the town, and one saw-mill within a mile of the town; some of the best unimproved mill seats on the Miami are here, and there is no section of the country where mills can be employed more profitably, being situated on a stream which empties into the Ohio, and near the navigable waters of Lake Erie. It is 27 miles from this place to St. Mary's, at the head of navigation on the St. Mary's river, from which place boats can go at any time, when there is a fresh in Fort Meigs, in ten or twelve days. There is a fine body of land lying between this place and Lake Erie, and west of Lake Michigan, capable of forming two more large states, and supporting as thick a population as any section of the union. It is about two hundred miles from this place to the southeast end of Lake Michigan, and I do not remember seeing a single hundred acres of land in the whole distance on which a good farm could not be made. The great St. Joseph's river, which empties into the southeast end of Lake Michigan, is navigable almost up to its source. There is no better land in America than is to be found on its banks. This river takes its rise not far from Fort Wayne; it has two branches, one called the St. Joseph's, and the other Elk Hart; these unite about eighty miles from the Lake, and form the great St. Joseph's, which is a large deep stream, capable of carrying vessels of from eighty to one hundred tons burden, without a single obstruction to the Lake.

"It is a fact that a boat may sail from St. Mary's (27 miles from this place), proceed past Detroit and through Lakes St. Clair and Huron, by Mackinaw, up Lake Michigan, and out through the Chicago river, into the river Plein, and down the Illinois to the Mississippi, without ever being unloaded—a distance of inland navigation not known in the world elsewhere."

NO. III.

WESTERN SETTLEMENTS.

For the following interesting letter, I am indebted to the politeness of a subscriber, and to the kindness of a friend in this place, through

whose hands it was forwarded to me. Those who feel interested in the success of our frontier settlements, will find themselves much gratified by the minute details here furnished. It always gives me pleasure to afford information to those who wish to remove to the Western Countries as they are called. Let the nation spread.—Scarcity of land and density of population will be felt soon enough, notwithstanding the “*immense swarms*” of settlers we are constantly throwing off towards the Pacific. The rage for manufacturing, and for imitating Europe in all her luxuries; and consequently for rivaling at length her inequalities, proprietors, grinding leases and final pauperism, is sufficiently threatening already. Plenty of “*elbow room*” must postpone the period of our arrival at this last stage—and therefore it gives me pleasure to see the young and adventurous going to seek their fortunes in lands yet unreclaimed from the desert. In doing this, they are probably securing fortunes for their progeny, and an easy old age for themselves.

*Fort Osage, 330 miles up the Missouri }
River, March 29, 1817. }*

SIR—I have recently had the pleasure to receive your very interesting letter of the 23d September last, addressed jointly to my brother Hopkins and myself. Although it is principally directed to my brother at Natchitoches, it happened somehow or other to get a direction to St. Louis, from whence it has been forwarded to me at this place. To say that I derived pleasure from hearing from an old valued acquaintance, after a lapse of many years, would be but a feeble expression of my feelings while reading your letter. It seemed like a renewal of the days of my boyhood, and like a revival of (what we are apt to call it) good old times. Although I am much pressed by official duties, I have taken my station at my desk with the full determination to write you a long letter; and to answer as correctly as I am able, your inquiries concerning this country. The same express by which I send you this letter to St. Louis post-office, will convey your letter (agreeably to your desire) to Natchitoches, under cover to my brother Hopkins, and you may expect to hear from him in the course of about two months from the very time you receive this letter. The public newspapers, as well as your letter, had informed me of the general failure of the grain crops throughout the southern and eastern sections of the union—and I observe also that the same scarcity had occurred pretty extensively in Europe. I believe our grain crops in the western country have been generally pretty good, though somewhat inferior to what they are usually. As far as my observation and information extend, I think the last crop was uncommonly abundant last year throughout the western country. Such was the case I know in this territory; and yet the price of pork has been exceedingly high, and will probably be higher—the usual price of pork is from 2 1-2 to 3 1-2 dollars per hundred; beef 3 1-2. Now, pork is 5 to 6, and beef 4 1-2.—This is altogether owing to the immense swarms of emigrants who are constantly flocking to the country from all parts of the union.

I refer you to the last edition of Bradley's map of the United States. No. I will copy such part of it here as may be necessary for my purpose.

[The editor is very sorry to be under the necessity of omitting the section of map inserted in this part of the letter. It lays down the course of the Missouri, through part of the territory of the same name, to its junction with the Mississippi, Boone's Lick settlement, with the positions of Fort Osage, St. Charles and St. Louis, as well as the courses of the Osage and other tributaries of the Missouri, are also laid down.]

This is truly a very rough sketch, but it will answer our purpose. Fort Osage was established in the fall of 1803. At this time the highest human habitation on the Missouri, except Indian huts, was on the banks of the river, about where the red letter A is placed on the annexed sketch, say about 38 miles by land above the village of St. Charles. In December, 1809, business called me to St. Louis. I traversed the country from Fort Osage, (80 miles) to the Arrow Rock at B, where I crossed the Missouri by swimming.—From thence I travelled in a direct course towards St. Charles, 120 miles to C. before I came to a house or a mark of civilized beings. In February, I returned to this place, and in my route overtook the first families who moved to Boone's Lick, who were in number about six or eight. In 1811, in November, I again went to St. Louis, and found at Boone's Lick, a settlement of about sixty families. In the summer of 1812, the first settlement was made on the south side of the Missouri, above the Osage river. During the late war, these settlements suffered greatly from Indian depredation, but still they increased considerably by emigration. In 1815 and 1816, they increased beyond all former example. The territorial legislature at their session in 1815-16, passed an act creating the settlement of Boone's Lick, into the County of Howard, and allowing them two representatives and one counsellor in the assembly. The new county includes all the settlements above the Osage river, on both sides of the Missouri, which have all grown since January, 1809. It is said, and I believe truly, that the population south of the Missouri, above the Osage river, is sufficiently numerous to entitle them to be created a new county, and no doubt the legislature will pass a law to that effect at their next sitting.

The settlement of the tract of country comprised in the new county of Howard, seems to me like enchantment. Where nothing but wild beasts of the forest, and savage hunters, were to be met with in 1809, of which not a tree had received the stroke of an axe, is now nearly all swept away, and in its stead are seen rising comfortable habitations, merchants' store-houses, a court-house, and all appendages of a seat of justice. Merchants, traders, lawyers, physicians, licensed tavern-keepers, abound; mechanics find their account in removing there, such as smiths, saddlers, and a variety of others; there are several common schools; two or three reputable preachers; and a weekly newspaper is soon to be printed there, by two gentlemen of fine talents; two towns have been laid off, and I am told the lots sell well; another is talked of. It is computed that upwards of a hundred families moved to the county of Howard, from Tennessee, Ken-

tucky, North Carolina and Virginia, during the last winter ; and I do not think I risk any thing when I venture to say, that emigrations to this county for 1817, will amount to three hundred families at the close of the year. Indeed I should be safe at saying five hundred. I expect the settlements will extend upwards during the present year, to within twenty miles of Fort Osage. The county of Howard (I mean the part settled) as fine a tract of country as any under Heaven ; whether we consider its fertility, climate, or healthfulness. A well cultivated field will produce, one year with another, 60 bushels of corn and 35 of wheat per acre. I have averaged 80 bushels of corn per acre at this place, but my field is small and highly cultivated.

Rye, oats, barley, Irish potatoes, red and white clover, timothy, and blue grass, turn out extremely well. They raise cotton sufficient for family consumption at Boone's Lick. Sweet potatoes do pretty well ; our kitchen gardens are not excelled by any of our country ; cabbages, lettuce, peas and onions, are remarkably fine ; hops, raspberries, gooseberries, strawberries and currants, grow wild and in great abundance all over the country. The timber is walnut, hickory, a variety of oak, locust, ash, cotton tree, papau, pacan, coffee nut, sycamore, elm, maple, sugar tree, hackberry, willow, box, alder, some pine, and some red cedar. The undergrowth is hazel, arrow wood, red berry, plum, crab apple, wild pea-vine and rushes. A variety of grapes, and wild cherry and persimmon.—So much for the settlement of the Missouri river, particularly that of Boone's Lick, or Howard county.

I shall now speak of the Missouri territory generally. By reference to the map you will find it embraces an immense tract of country, including within its limits, the Arkansaw, White, St. Francis, Merri-mak, Gasconade, Osage, Missouri, and many other large rivers—and I believe it embraces some of the worst lands as well as some of the best in the western country.

The climate is generally salubrious and healthy, and the face of the country beautiful, salubrious and inviting. Lead and iron ore are in very great abundance ; salt springs plenty. In short, nature has been truly bountiful in the distribution of her favours in this territory. The Missouri is navigable for large boats 3000 miles, the Arkansaw upwards of 1200, the White river 500, St. Francis 300, Gasconade 200, Osage 350. St. Louis is the principal commercial town in the territory. It has from 350 to 400 houses, is beautifully situated on the Mississippi river, twenty miles below the mouth of the Missouri. It is growing very rapidly, has at present near fifty regular mercantile houses, many merchants, and a proportion of the common establishments to be usually found in towns.

The trade of the place consists in lead, furs and peltries, and other Indian articles, pork, beef, salt, tallow, flour, wheat, corn, oats, dry goods, groceries, &c. Business is commonly pretty brisk, and the merchants generally grow rich in a few years. Dry goods are brought to St. Louis, from Philadelphia and Baltimore. They are waggoned to Pittsburg, and from thence by water to St. Louis ; the cost of transportation from Philadelphia to St. Louis does not exceed

ten cents per lb. House-rent at St. Louis is very high, and lots for building are nearly as high as they are in some of our larger cities, and rising very rapidly. Lands near town are from 5 to 200 dollars an acre. Those lands adjoining St. Louis, are worth from 600 dollars to 1000 per acre. Society in St. Louis pretty good, and fast improving. Provision markets tolerably well supplied, and pretty cheap. Labourers are very dear—say from fifteen to thirty dollars per month and find them. Good boarding is fifteen dollars per month, including lodging—tavern prices are yet high. Building is very expensive. Distance from St. Louis to New-Orleans, by water, 1500 miles—freight from New-Orleans to St. Louis, five dollars per hundred. Our groceries chiefly come from there.

The Missouri territory will become an independent state in a few years without doubt. Its population must be already great enough to entitle its admission into the union.

If there was any prospect of my being able to snatch as much leisure as would be necessary to write this incoherent and unconnected scrawl over again in time, I would certainly do so, but there is no such prospect. Such as it is, therefore, you must be indulgent enough to put up with it, and make the most of it you can. It has been written amidst continual interruptions, and I am compelled to conclude abruptly.

For myself, I have only, briefly, to inform you, that I have been in the public service in this country since the fall of 1805.—In October, 1808, I came here to make an establishment for government pertaining to Indian affairs—80 regular troops came with me as a guard—the same number are here now in garrison. My office is agent of Indian trade and sub-agent of Indian affairs, for which I receive 1666 dollars per annum, and furnished one clerk, one interpreter of Indian languages, and a comfortable house and furniture at public expense. Many Indians of various tribes resort to this agency, giving me at times a great deal of trouble and perplexity. I am obliged to take my leave, sir, abruptly. If you have leisure, I shall be at all times happy to hear from you. Direct to me at St. Louis, Missouri territory.

I am, sir,

Very respectfully,

Your most obedient servant,
G. SIBLEY.

Mr. James G. Mack, Henderson, N. C.

N. B. The Indians in this quarter are peaceable and generally well disposed.

NO. IV.

THE LATE INDIAN TREATY.

CINCINNATI, Oct. 17.

The commissioners on behalf of the United States, have, at the treaty lately held at Fort Meigs with the Indians, obtained a relia-

quishment of their claims to all the lands within the state, with the exception of the following reservations: At Upper Sandusky 12 miles square; at Wappakonata 10 miles square; at Lewistown 7 miles square; at Hog creek 5 miles square; at Fort Seneca 7 miles square, and the tract west of St. Mary's river, supposed to be about 300 square miles, amounting in the whole to 425,800 acres. The whole tract of land purchased, including the Indian reservations, and the unceded tract west of the St. Mary's river, contains, by a rough calculation, says the *Supporter*, 3,662,420 acres, from which deducting the amount of the reservations as above, will leave 3,345,540 to which the Indian title is extinguished. To this may be added, say 840,800 acres lying north of the Miami of the Lakes, and east of a meridian running north from Fort Defiance, ceded by the treaty of Detroit in 1807, making, agreeably to this estimate, an aggregate of 4,276,340 acres of unoccupied lands in the state of Ohio, to which the Indian title is extinguished.

For these lands the treaty "allows the Wyandots an annuity of 4000 dollars, the Shawanoes 2000 dollars, and the Senecas 500 dollars; together with the sum of 3300 for 15 years, to be divided between the Pottowatomies, Chippewas and Ottowas."

This, to the state of Ohio, is one of the most important negotiations since the adoption of her constitution. Indeed to the whole western country, it is by no means unimportant. When these lands are surveyed and placed in the market, the population of the state will increase with a rapidity heretofore unequalled. The local situation and fertility of soil of a great portion of this tract of country, will arrest the attention of settlers; agriculture and commerce will soon spread their genial influence over it, the cottage of the husbandman, and lowing herds will soon enliven the scene where the wilderness now prevails, flourishing towns and villages will soon assume the place of the wigwam. Our state will soon assume a high station in the political scale.

[*Western Spy.*]

No. V.

WASHINGTON, Sept. 14.

At a late election for a representative to congress, in the state of Indiana, nearly 10,000 votes were taken. The population of that state increases so rapidly, that it is probable the census of 1820 will entitle it to 5 representatives in congress.

No. VI.

VEVAY, (IND.) Sept. 16.

American Wine.—The one half of the crop of wine now growing on the farm of the late David Golay, deceased, was sold on Saturday last, at public auction, for the benefit of his heirs, at 73 cents per

gallon, to be delivered as coming from the press, the purchasers to furnish the casks. The whole of the crop, the product of about three acres and a half, is estimated at 11 or 12 hundred gallons. Two men and a few children, besides tending that vineyard, raised a considerable quantity of corn and other articles.

No. VII.

Geographical.—Hamilton, at the head waters of Aleghany river, is a small village; but from its situation, it is becoming a thoroughfare for families emigrating from the eastern states to the countries lying on the Ohio and Mississippi rivers.—Large arks of 60 feet by 12 and roofed over, are sometimes built at Hamilton, on board of which families embark with their waggons and horses. Keel boats of from 5 to 10 tons burden may also be used both ascending and descending the river. The distance from Hamilton to Pittsburg through the turns of the river, is about 260 miles, and the only road by land is about 170, yet the direct distance is much short of that, as may be seen by the map. The Aleghany is a steady stream, and is navigable for arks and boats in spring and fall, and by occasional freshets in the summer.

No. VIII.

INLAND NAVIGATION.

The following communication relative to a new channel of commerce into the interior, will be viewed as of great interest. We also insert an article on the same subject from a Pittsburg paper, and which has before appeared in the *Columbian*. These articles are of too much importance to be passed over lightly and forgotten. It is a fact, that during the first week in this month four hundred tons of American plaister arrived at the village of Ithaca, at the southern extremity of Cayuga lake, on its way to the western part of Pennsylvania.

A merchant from Marietta (Ohio), has just left this city with several tons of goods, (it being his second trip,) who takes them from Albany by way of Geneva, and Hamilton on the Aleghany river, to his place in the state of Ohio. This gentleman is of opinion that goods can be transported from this place to Pittsburg for considerably less than they can be taken from Philadelphia over the mountains to Pittsburg.

Plaister is found in great quantities in the counties of Geneva, Ontario and Cayuga—and is getting use near Pittsburgh, as appears by the following article from a Pittsburg paper:

Mr. Scull—Sir, I think it a duty I owe to the public to inform them of the benefits arising from the plaister lately brought to Pittsburg by H. & W. Jack.

I have made an experiment, and have no hesitation in pronouncing it equal if not superior to other plaister brought from different parts of the world. Therefore those who are desirous of improving their meadows (for a proof of its good effects) will please call on the subscriber, at the Black Horse tavern, 4 miles east of Pittsburg.

JOHN SERVICE.

No. IX.

During the late freshets a considerable quantity of lumber has been brought down the Aleghany river, from Hamilton, in the state of New-York; and, it is said, that pot-ashes and plaister of paris may be expected from that place in future. Although the supply of these articles will not probably, for some time, be equal to the demand, yet when the enterprising spirit of the people of New-England, who have settled, and are settling on the heads of the Aleghany, is considered, it appears probable that the quantity of both of the above articles will increase rapidly in this market. So that the proprietors of our glass-works may look forward to the time when pot and pearl-ashes may be had on moderate terms, and the farmers may hope to supply themselves with what plaister they want.

We shall stand chiefly indebted for these advantages to the liberal aid shown by the legislature of New-York, towards the improvement of Hamilton; which, from this cause, joined to the advantages of its situation at the junction of the Olean with the Aleghany, must make speedy advances as a place of trade; and we may, perhaps sooner than we are aware of, see goods from the city of New-York embarked at Hamilton for the states of Kentucky and Ohio, &c. It is no easy matter to divert trade from its old channels; but it may be done by neglecting the improvement of those channels. When once done, it is not an easy matter to see it back again. This is become a serious subject for Pennsylvania in general, and for Philadelphia in particular; and it is to be hoped, that the exertions now making to get the turnpike finished at Greensburgh, will not be relaxed till it is carried over the mountains of Chambersburgh. This ought to be accomplished in three years. New-York is wide awake. If we do so, we shall have time to repent when repentance will not avail.

SYLVANUS.

No. X.

INLAND NAVIGATION.

The important subject of internal improvement by Canals and Turnpikes, appears to have attracted universal attention.—In addition to the great canal from the Hudson and Mohawk rivers in the state of New-York to Lake Erie, which commenced in July last, it

is proposed to cut another to connect the waters of Lake Champlain with those of the Hudson. A survey is nearly completed from the lake to the river. The gentlemen engaged in this business report, that the soil is uniformly favourable, and that no obstacles of magnitude are in the way of this great object. A memorial is now in circulation in Virginia, Kentucky and Ohio, to be presented to the legislature of Virginia and the Congress of the United States, in which a plan is laid down for connecting the waters of the Chesapeake with the Gulf of Mexico. It is stated in the memorial, that James' river is capable of being made navigable for boats of considerable burden to the mouth of Dunlap's Creek, and even some miles higher by an increased expense; that an artificial road may be formed with an unusual facility, the ascent of which will not be more than an angle of five degrees with the horizon, and the length if only carried to the nearest waters of Greenbrier river susceptible of navigation, will not exceed thirty miles; or if extended to the navigable waters of the Great Kenhawa, below the great falls of that river, will not exceed one hundred miles; from which latter point, the waters descending with a bold, but gentle current, for an hundred miles, mingle with the Ohio, and afford a free navigation for boats of a large size to the Gulf of Mexico. By this plan an inland communication would be opened, from the head of the Chesapeake to the mouth of the Mississippi.—Should this be accomplished, and canals from the Raritan to the Delaware, and the Delaware to the Chesapeake be completed, we shall have an inland communication from the extremity of Vermont to New-Orleans, a distance of 3000 miles, and we believe the expenses attending these several improvements, would be comparatively small when we take into view the immense advantages resulting to the eastern and western sections of our country.—In a political view it would be of great advantage by drawing several sections of the United States more closely together. It would reduce the distance to New-Orleans more than one half;—and would tend to remove in a great measure that antipathy which at present exists between our western and eastern brethren, resulting from conflicting interests. The valuable products of the fields and forests of the west, would find their way through this channel to the Atlantic, and be equally beneficial to the eastern merchant and western farmer. The apathy that prevails in this state on the subject of the canal from the Delaware to the Raritan is an evil greatly to be regretted.—The benefits resulting to New-Jersey from this, and from a canal connecting the Chesapeake and Delaware, would be invaluable. We hope the enterprise of our northern and southern brethren, will awaken the people of this state to a sense of their true interests.

No. XI.

It was our intention to have given the time in which various steam-boats performed their voyages from Pittsburg, Cincinnati, and Louisville to New-Orleans and in return, but have not been able to procure

the necessary document. From a recent publication, entitled "Notes on a Journey in America," &c. by Mr. Birkbeck,* which reached the city of New-York after the above was in type, it appears that the steam-boat *Ætna* left New-Orleans on the 6th June, 1817, and arrived at Louisville on the 14th July, performing the voyage in 38 days. The distance 1383 miles, or rather more than 36 miles per day during the whole time of the voyage. The actual speed of the vessel must have exceeded, when in motion, fifty miles per day, to compensate time lost in stopping at various places. The full value of steam, as an impulsion upon vessels, will only be demonstrated in places remote from sea-ports, upon large rivers.

No. XII.

Since this Appendix was put to press, Mr. Birkbeck, an English gentleman, already well known to the literary world, has published a work entitled, "Notes on a Journey in America, from the Coast of Virginia to the Territory of the Illinois."

This publication contains much valuable information, that may be useful to either residents in, or emigrants to the valleys of Ohio or Illinois; it is written, not without prejudice, but without any of those disgraceful antipathies, that render disgusting nine-tenths of the matter published by Europeans respecting America. If Mr. Birkbeck resides five years in Illinois territory, he will not then charge with laziness men who have, according to his own account, changed a wilderness to a civilized residence in three or four years. He will find that many of those apparently indolent loiterers, were examining him very much at their leisure. In our Advice to Emigrants we have taken the liberty to warn them against mistaking for laziness, a common carelessness of manners characteristic of the men of the west. The rapidity with which towns, villages, and fields have arisen from the gloom of a desert, is a striking commentary upon the true character of this really active body of MEN.

NOTE.—These tables ought to have made part of page 270, but were omitted in their proper place.

Topographical Table of the Counties of the State of New-York, included in the Ohio Valley and Basin of St. Lawrence.

Counties.	Population in 1810.	Chief Towns.
Albany	1,942	Angelica.
Cattaraugus	500	Hamilton.
Cayuga	29,843	Auburn.
Cortlandt	8,869	Homer.
Genesee	12,588	Batavia.
Jefferson	15,140	Watertown.

* See Mr. Birkbeck's Work, p. 172.

APPENDIX.

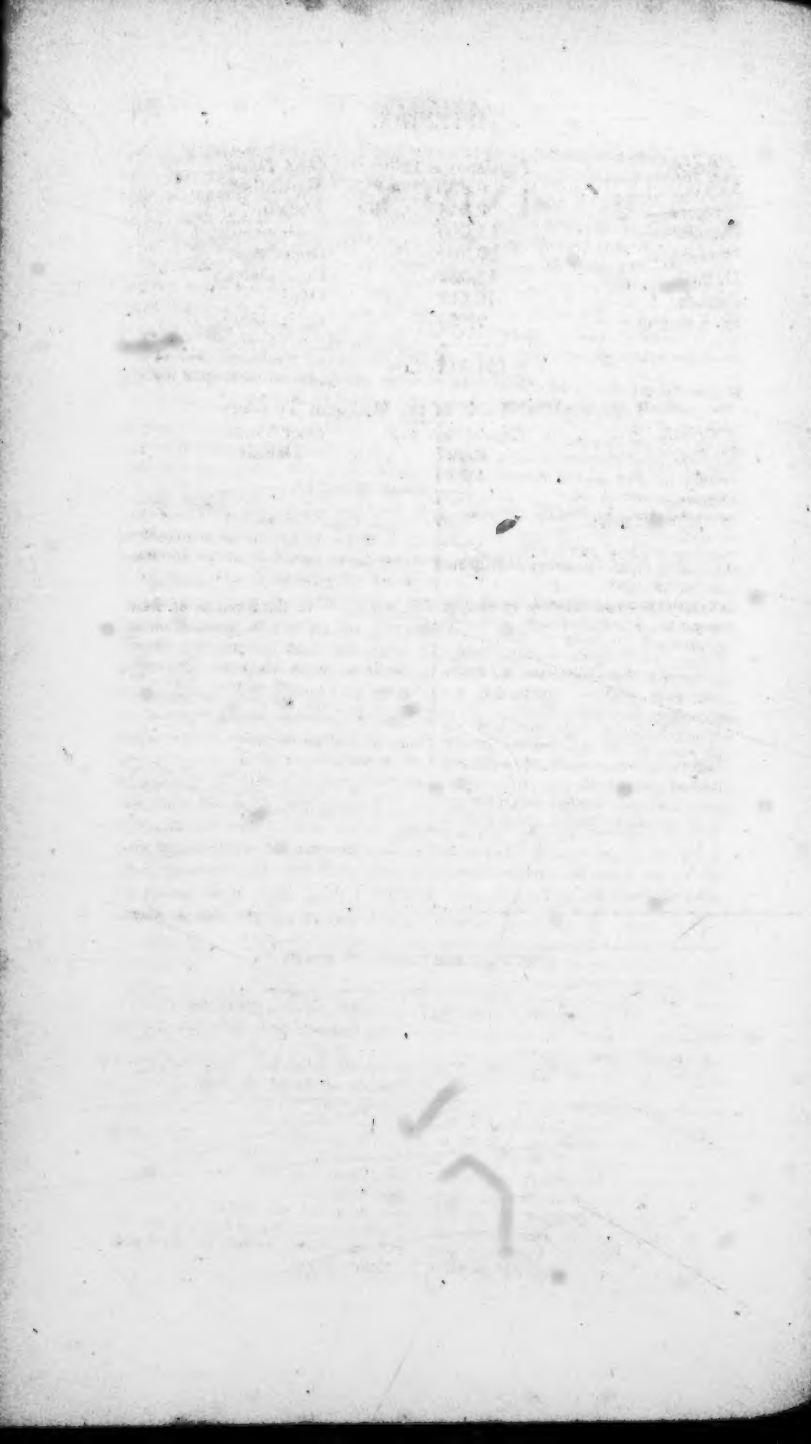
311

<i>Counties.</i>	<i>Population in 1810.</i>	<i>Chief Towns.</i>
Lewis	6,433	Martinsburg.
Niagara	8,971	Buffalo.
Oneida*	15,000	
Onondaga	26,000	Onondaga.
Ontario	42,032	Canandaigua.
Seneca	16,609	Ovid.
St. Lawrence	7,885	Ogdensburg.
	191,812	

Topographical Table of the Michigan Territory.

<i>Counties.</i>	<i>Population in 1810.</i>	<i>Chief Towns.</i>
Detroit	2,227	Detroit.
Erie	1,340	
Huron	580	
Michilimakinak	615	
	4,762	

* Only the north-western section of this county is in the Basin of St. Lawrence.



INDEX.

A

Afrique, mount of, 26; its effects upon the climate of the basin of the Rhone, idem.

Alluvion, of the Rhone, 25.
 ———, Lands formed of, upon large rivers, the first part of a new country that is settled, 38
 ———, of the Mississippi, 51, 89.
 ———, Ohio, 189.
 ———, Atlantic coast, 189.

Alabama river, 32—junction with Tombigbee, 37, 130.

Alabama territory, current along the shore of, 16—provisional line between, and the state of Mississippi, 20—act of Congress creating, 128—described, 130—counties of, 131—part of in the Ohio valley, 187.

Amite river, described, 116

Analogy, between vegetables and the phenomena of the seasons, 12—attention to recommended to the statistical student, 75.

Apple, does not flourish in the state of Louisiana, 11—where cultivated in France, 28—its locality different from that of the vine, 28—in the basin of the Loire, 30—in the state of Mississippi, 120.

Argil, its effects upon the vine, 30.

Arkansas river, its great length, 49—sources, 50—course, idem.—description of, 138—country between and the mouth of Ohio, 141.
 ———, Post, or town of, 140.

Arpent of Paris, compared with the American acre, 6, note, idem.—also a measure of length, idem

Arundo gigantea, in Opelousas, 77—79.
 ———, aquatica, 77.

Atchafalaya river, its length and depth, 15; phenomena of, idem.; a continuation of Red river, 52—features of the shores, and raft in, 52—joins the gulf of Mexico, idem.—an unimportant river as respects the culture of its banks, 53—features of between Opelousas and Bayou Plaquemine, 54—junction

with the Teche, 72—surveys on, 84.

Atlantic ocean, 24—why less frost upon the shores of, than upon those of the gulf of Mexico, 31

Avoyelles parish, 70.

B

Baliss, 16 and 17.

Basin, what, 24; of the Rhone, 25—wine of, 26—features, 27.
 ———, of the Seine, its position, 27; contrasted with that of the Rhone, idem—its subdivisions, 29.
 ———, Garonne, 30.
 ———, Mobile, its resemblance to that of the Rhone, 30—its position, idem—warmer than the country near Natchez, idem—hills of, 32—congenial to the production of vines, 33—small grain idem—trees, idem.
 ———, Ohio and Illinois, 189.
 ———, St. Lawrence, 267.

Basis, meridian, what, 7.

Bastrop, Baron of, his grant, 5—situation, 91—papers relating to, 94—lands of described, 99.

Bayons, Bocuf, 10.
 ———, Bourbée, 57.
 ———, Cane, 56.
 ———, Carron, 57.
 ———, Fusillier, 10.
 ———, Grand Louis, 57—sources, idem.
 ———, Lacasine, 60.
 ———, Nezpiqué, 56.
 ———, Petite Prairie, 71.
 ———, Plaquemine, 10.
 ———, Plaquemine Brulé, 56.
 ———, Queue Tortue, 56.
 ———, Rouge, 70.
 ———, St. John, 11.

Bays, Campeachy, 16.
 ———, Chandeleur, 17.
 ———, Atchafalaya, 53.
 ———, Biloxi, 123.
 ———, Côte Blanche, 55.
 ———, Escambia, 132.
 ———, Pascagoula, 123.
 ———, St. Louis, 20—123.

Beaujolois, soil of, how formed, 26.

Belleue prairie, extent, 66—soil and timber, idem.

- Bhens*, oriental, its qualities and introduction into the United States, 185
 ---botanical description, *idem*, note.
Bienvenue bayou, 19.
Bistineau, lake lands near, 89.
Black Warrior river, 167, note.
Blakesley, town of, its situation, 21, 35, 36.
Boatmen, their modes of life, 40.
Boeuf, bayou, its banks remarkable for the culture of cotton, 10.
Borgne, bay or lake of, 17---passages from into lake Ponchartrain, 19---its extent and position, *idem*.
Bovery lands in Illinois territory, 209.
Bourbonais, 24.
Brackenridge, Mr., his works, 292.
Bradbury, Mr. John, his travels, 292.
Briggs, Mr. Isaac, Surveyor General, commences surveying public land in Louisiana, 7.
Brisot de Warville, his work, 291.
Broun's Western Gazetteer, 293.
Burgundy, soil of, how formed, 25.
- C
- Cape Girardeau*, settlement and town, 142.
Caribbean sea, current from into the gulf of Mexico, 16.
Cape St Antoine, 16.
 ---Catoche, 16.
Cat island, 19---good anchorage near, 20.
Charteret's bank, 31.
Carondelet village, 143.
Cattle, in Louisiana, 76---died by pleurisy, 78.
Canal, projected to pass the rapid in Ohio river at Louisville, 205---by the Chicago from Lake Michigan in a Illinois river, 215.
 ---grand in the state of New York, 269, 285, and sequel---to lake Champlain, 287.
 ---various, 248.
Cereæ Gramina, what, 182, note.
Chestnut Ridge, 232.
Champagne, its sterility, 22.
Chandeleur, bay of, 17.
Chaptal remarks that the fine wine called the *Hermitage* is produced from a granite sand, 24.
Chatellux, Marquis of, 291.
Chef Menteur, pass of, 19.
Chippewan mountain, 30.
Christian, pass of, 19, 20.
Cincinnati, town of, its progress, 225.
 ---Dr. Drake's account of, surface, 1, 147, 191, 291.
Clay soil, destructive to wine, 30.
- Climate* of France and the United States compared, 24---more influenced by local exposure or shelter than by mere latitude, 26---of Europe and America contrasted, 31---not influenced entirely by latitude, 79---observations upon, 171, note---necessary to the wine and cotton similar, 176---manner of determining whether suitable to any given vegetable, 177---of the states of Kentucky and Tennessee, 204---general disquisition on, 230 and sequel.
Coal, abounds in the state of Ohio, 224---near the city of Pittsburgh, 259---in Brownsville, 262---importance to Pittsburgh and Brownsville, 266.
Commissioners for the adjustment of land claims in Louisiana, 5, 146.
Concordia, parish of, 102---town of, *idem*.
Coosa, river, 132.
Cotton, can be more extensively cultivated in Louisiana than sugar-cane, 8---is better adapted than sugar-cane for persons of small capital, 10---the general staple of Louisiana. *idem*---where cultivated to most advantage, *idem*---produced on various kinds of soil. *idem*---frequently killed by frost near Natchez late in April, 11---staple of Attacapas, 74---where it can be successfully cultivated, 74---the principal staple of the state of Mississippi, 120---in the Missouri territory, 142---not necessarily entirely destructible by frost, 176---congenial climate the same with that of the vine, 176.
 ---mode of culture, collecting, cleaning, &c. 178, and sequel---oil from its seed, 180---quantity produced in the United States in 1816, 185.
Courtableau river, 59---how formed, 88.
Cow of Louisiana, its character, 77.
Creeks, Bayou Pierre, 115.
 ---Big-belly, 221.
 ---Burnt corn, 134.
 ---Big Swamp, 133.
 ---Catoma, 133.
 ---Coles, 115.
 ---Conecuh, 133.
 ---Darby's, 221.
 ---Deer, 221.
 ---Fairchild, 115.
 ---Fishing, 253.
 ---French, 254.
 ---Herod's, 134.
 ---Kilbuck, 223.
 ---Kitchaphone, 134.

Creeks, Licking, 222.
 — Line, 132.
 — Mahoning, 223.
 — Mill, 221.
 — Mohecan, 222.
 — Murder, 134.
 — Owl, 222.
 — Paint, 221.
 — Pinchona, 133.
 — Pohlala, 133.
 — Salt, 221.
 — Sepulgas, 134.
 — St. Catherine, 115.
 — Summoehicola, 134.
 — Walnut, 221.
 — Whetstone, 221.

Cuba, island of, 16.

Cumberland mountain, 103, 195, 204, 259.

Current upon the coast of Alabama Territory, 16—state of Mississippi, idem.

— Louisiana, idem—Texas, idem—Vice-Royalty of Mexico, idem—Bay of Campeachy, idem—Yucutan, idem.

D

Darby's Louisiana, 293.

Dauphin island, 19.

Della of the Mississippi, phenomena of, 13—country west of, its interesting character, 49.

— defined, 87, note.

Detour des Anglais (English Turn), 17.

Dog island, 19.

Drake, Dr. his account of Cincinnati, preface, character of the work, 147, 191—recommended to emigrants, 292.

Dunbar, Mr. William, quoted, 245.

E

Ellicott, Mr. Andrew, determined where the 31st degree, north lat. intersects the Mississippi river, 7.

Emigrants to Louisiana, Mississippi and Alabama, advice to, 42—to those who visit the Ohio basin, 231.

— general advice to all classes of, 290.

Emigration, into the Missouri territory, 145.

— into Tennessee, 196.

— Kentucky, 203.

— Illinois, 206.

— Indians, 213.

— State of Ohio, 219.

English Turn, 17.

Evergreen trees, in the basin of the

Rhone, 27—southeastern part of Georgia, 31.

Exposure to the north and south winds, importance of, in the theory of vegetation, 25—in producing the fine wines of Rochefort and Beaume, 26—why the olive tree has perished in some parts of France, where it was formerly cultivated, idem—advice respecting, idem—the reason why vines grow at Laon and not at Rouen and Havre, though upon the same latitude, 27—examples of its effects, idem—shelter, its effects, 28.

— Phenomena of, in the basin of the Loire, 29.

— upon the shores of the Gulf of Mexico, 31.

— in the Mobile valley, 32.

— upon the olive tree in France, 167—observations on, 174, note.

F

Fausse point bend 72—town of New Iberia on, idem.

Ferruginous earth, injurious to wine, 30.

Fig tree, 11, 183.

Flax, 184.

Floetz rock, what, 139, note.

Florida, point, 16.

— West, part of, incorporated in the state of Louisiana, 3—current upon its shores, 16.

Fort Claiborne, 21, 25, 36.

— St. Stephens, 21, 35, 36, its central position, 38—roads from, idem, described, 39.

— Stoddert, 21.

France, south of, resemblance to the southern parts of the United States, 21—compared, 167; note.

Franche Compté, soil of, how formed, 125—chert of, 27—mountains, 29.

Frost, occurs annually at New Orleans, 11—remarkable, of 1789-90, and of 1814-15, idem—frequently destroys the sugar cane, cotton, and orange tree, on the Gulf of Mexico, 11—why less frost on the Atlantic coast than upon the shores of the Gulf of Mexico, 31—effects upon the olive tree, 171—general effects upon vegetables, 175—severe at Natchez, 246, idem, note—cause of its influence upon vegetables.

Fruits, those most generally cultivated in the southern parts of the United States, 183.

G

Gardens, in Louisiana, neglected, 11—

the best, those of M. Bringier, and Cevallos, idem.

Georgia, sugar cane cultivated, induction, 31.

Grant, to Baron Bastrop, 5--papers relating to, 94.

— French and Spanish in Louisiana, 6.

— French emigrants, 22.

— *Houmas*, 5.

Marquis Maison Rouge, 5--papers relating to, 92.

Gulf of Mexico, 11--tides of, 15--currents, 16--its shores contrasted with the shore of the Atlantic ocean, 30.

Gypsum, formed on Ouachitta, 51--in the state of N. York, 270.

H

Hache, point of, 17.

Hammock land, its character, 32--abounds near Red river, 89.

Hamilton, distance from N. York, 284.

Hemp, 184--quantity of Hemp baling, cloth and cordage, necessary for 320,000 bales of cotton, 185--its culture compared with that of flax, idem.

Hermilage wine, produced from grapes growing in granitic sand, 24--character of, 27.

Heron, pass of, 19--its position, 21--shallow, idem--depth, 136.

Hills, in France, 28--between Nevers and Nanta, 30--between the waters of Tombigbee and Yazoo, 32--between Pearle and Pastagoula, 32--between the confluent waters of the Mississippi and those of lake Maurepas and Pontchartrain, 32--in Opelousas and Attacapas, 73--between Red and Sabine river, 85--west of Sabine, 85--between Red and Ouachitta rivers, 90--in the state of Mississippi, 116--in Missouri territory, 137--between Arkansas, White, and St. Francis rivers, and the Missouri and Mississippi, 142--dividing ridge between the waters of the Ohio valley and shores of the Atlantic declivity, 190--in Tennessee, 193--in the state of Indiana, 216--in the state of Ohio, 224--in west Pennsylvania and west Virginia, 252

— of Côte Blanch, Belle Isle, Grand Côte, Petite Anse, and Côte Carline. Their character, 68.

— of Bayou Rouge, singular position and features, 69--included in the Parish of Avoyelles, 70.

Homechitta river described, 115.

Horn Island, 19.

Horticulture, practicability of, in the state of Louisiana, 11.

Hot springs on Ouachitta settlement, 140.

Hudson, river of, phenomena, 189--canal from, to lake Erie, 285--to lake Champlain, 287.

Humboldt, baron, his works on America valuable, 292.

Huntsville, town of, 138.

Huron, lake, described, 267.

Hutchins, Mr., his observations upon the Mississippi, erroneous, 13.

I

Illinois river, 209--its current gentle, 210--confluent streams, idem--not correctly known, 211--its length, idem--canals to unite with the lake Michigan, 268.

Illinois territory, position and population, 187--boundaries, 207--topographical table of, 208--progressive geography, 212--towns, 213.

Indiana, state of, position, extent and population, 187, 213--statistical table of, idem--rivers, 214--towns, villages, and schools, 216--productions and staples, idem.

Indigo, its relative value, table page, 7--may be cultivated as extensively in Louisiana as cotton or tobacco, 10--has been a staple commodity of Louisiana, 10--compared with other staples, 190--objections to its culture, idem.

Inundation of the Mississippi and confluent streams; effects upon the salubrity of the atmosphere, 12--extent of, over-rated, idem--width of below 33° N. lat. idem--extent of, 13--their cause, 14--relative times of, at Natchez and New-Orleans, idem--two of the Mississippi annually, 52.

Iron, native, found in Texas and brought to New-York, 51.

Islands, Cat, 123.

— Dauphine, 123.

— Dog, 123.

— Malheureux, 123.

— Marianne, 123.

— Ship, 123.

J

Jefferson, Mr., Notes on Virginia, 147, quoted, 235, 292.

Jura, mount of, 26, 27.

K.

- Kaskaskia* town, 213.
Kenhawa, great, river, 191—described, 256.
Kentucky, best account of its climate, Drake's Cincinnati, 1.
 — position, extent, and population, 197—boundaries, 201—topographical table of, 202—progressive geography, 203—natural features and productions, 203—rivers of, 204—manufactures, 205—staples, idem—timber, 206—towns, colleges, schools, idem—Transylvania University, idem.
Kilbourn's Ohio Gazetteer, 293.
Kickiminitas river, 254.

L.

- Lake*, Bisteneau, 87.
 — Black, 87.
 — Bodcan, 87.
 — Borgne, 17, 19, 32.
 — Calcasieu, 55.
 — Chetimachas, 13, 54.
 — Concordia, 13.
 — Erie, 215, 268.
 — Fausse reviere, 13.
 — Homochitto, 13.
 — Huron, 267.
 — Maurepas, 13, 32.
 — Mermentau, 55.
 — Michigan, 215, 267.
 — Natchitoches, 87.
 — Natches, 55.
 — Ontario, 268.
 — Pontchartrain, 13, 19.
 — Providence, 13.
 — Sabine, 55.
 — St. John, 13.
 — St. Joseph, 13.
 — Spanish, 87.
 — Yazoo, 13.
Land, public, manner of surveying and selling, 6.
 — titles in Louisiana, their variety, 6.
 — public, none yet sold in Louisiana, 8.
 — offices, at Opelousas and New Orleans, 4.
Langres, mountains of, 27—the most elevated town of France, 28.
Laon, and Rheims, why wine produced at, and not at Rouen and Havre, though on the same latitude, 27.
Live oak, in Opelousas and Attacapas, 63, 64—a demarkation of climate, 65—an exotic at Opelousas church, idem—its locality, 76.

- Laurel Hill*, 252.
Loftus heights, 32, 116.
Loire, basin of, its divisions, 29—productions, idem.
Louisiana, Stodard's view of, 1.
 — Brackenridge's view of, 1.
 — Darby's statistical, 1b.—
 when taken possession of by the United States' government temporarily divided into two territories, Louisiana and Orleans, 3—its extent, 50—the largest bloodless conquest ever made by man, 146—fidelity and bravery of its inhabitants, idem.
Louisiana, state of, the same with the territory of Orleans, except the addition of West Florida, 3—extent and limits, 4—posts in, idem—extent of arable land, in table page 9—current upon its coast, 16—causes which have retarded its population, 146.
Lyons, city of, its relative climate, 26, 28.

M

- Maïson Rouge's* grant, 5, 92.
Maurepas lake, 32.
Maize, its extensive culture and value, in the Mississippi valley, 10—its product on a given extent variable, 11—time of planting, idem.
Manatoulin islands, 267.
Marianne islands, 19.
Malheureux islands, 19.
 —, pass of, 20.
Mediterranean sea, 24.
Melia Aederach, (pride of India) flowers and leaves of destroyed by frost at Opelousas, April 1814.
Mentelle and Malte Brun, their geography quoted, 4, note, 22, 23.
Melish's view of the United States, 1—his map of, 293.
Meteorological and vegetable analogical laws, their use in investigations on climates, 12.
Mexico, gulf of, frosts upon its northern banks, 11—tides in, their height, 15—current westward from the mouth of the Mississippi, 16; shore of between the mouths of the Sabine and Calcasieu rivers, surveyed by the author of this treatise, 16—current enters between capes Catoche and St. Antoine, its course, idem—its shores contrasted with those of the Atlantic ocean, 30—shore of from the mouth of the Sabine to the Mermentau rivers, 57—best map of, idem.

- Mexico**, city of, distance by land from New Orleans, 44.
- Merise** viceroyalty, current upon its eastern shore, 16.
- Mississippi**, river of, 10—inundations, 12—causes of the changes in its bed, 13—rapidity of its stream over-rated, 14—current of explained, 15—distance of its mouth from New Orleans, 16—settlements upon its banks, *idem*—outlets of, 18—how far capable of being deepened, *idem*—country west of its Delta, 40, 85—faras part of the western limit of the state of the same name, 118—floating upon in the night condemned, 272—steam-boats on, *idem*.
- Mississippi**, state of, current upon its coast, 16—provisional line between and the Alabama territory, 20—compared with the state of Tennessee, 126—act of congress creating of, 104—its extent and population, 106—Dr. Wm. Lattimore's speech respecting, 107—productions, 114—natural divisions, 118—trees of, 119—climate and seasons, 121.
- Geological structure, 122—staples, 124—part of the territory of in the Ohio valley, 187.
- Missouri**, territory of, its extent, 137—natural divisions, *idem*—statistical table of, *idem*—causes which have retarded its population, 143—climate and seasons, 149.
- river, 14, 137—banks, 140—peninsula between and the Mississippi river, *idem*.
- Mobile**, basin of, its features, 30—hills of, 32—extent, 33—soil, *idem*—congenial to the production of vines, *idem*—trees of, *idem*—variety of its various sections respecting health, 38.
- bay of, depth, 21, 32—communication between and New Orleans, 123—with the interior of Alabama territory, 128.
- river, 29—the Rhone of North America, 32, and 187 note.
- town of, 21, 35—situation, 36.
- Montclair**, situation of, 26.
- Monticello**, in Virginia, seat of Mr. Thomas Jefferson, 234.
- Monticello**, seat of government in the state of Mississippi, latitude of, 30, and 126—situation of, *idem*.
- Mountains**—Africa, its effects upon the climate of the basin of the Rhone, 26.
- Albany, 32—not the dividing ridge between the waters of the Atlantic declivity and Ohio valley, 190—general features, 244.
- Chippewan, 51.
- Cumberland, 193, 195, and 204.
- Dauphiny, 29.
- Franche Comté, 29.
- Horez, 29.
- Jura, an embranchment of the Alps, 25, 27.
- Limosin, 29.
- Maserne, 21—character of, *idem*—part of the Chippewan, 245.
- Langres, 27—forms the demarkation between the basins of the Rhone, Meuse, and Seine, *idem*—joins the mountains of Lorraine, 25.
- St. Eaprit, 27.
- St. Saba, 51; imperfectly known, *idem*.
- Ventose, 27.
- Vivara, divides the waters of France which flow into the Mediterranean sea, from those which are discharged into the Atlantic ocean, 24.
- Mulberry tree**, 186.
- Musquito**, effects of its bite on human health, 4; where found, *idem*; advice respecting, *idem*; curtain, 41.
- Nashville**, distance from New Orleans, 43.
- Natchez**, lake, 52; at what seasons passable with boats, 54.
- Natchez**, seasons of, compared with those at New Orleans, 11; its distance from the mouth of the great Kenhawa river, 15; apples cultivated near, 28, note; establishment of in 1718 by the French, 70; inhabitants of massacred by the savages 1729, *idem*; climate of, 121; geographical position, 126; seasons, 148; season of collecting cotton near, 178.
- Natchitoches**, parish of, 101; town of, *idem*; road to St. Louis, 149; its important position, *idem*.
- Natchez river**, 55.
- New Iberia**, situation of, 72; contrasted with St. Martinsville, 74; a port of entry, *idem*.
- New Madrid**, town of, 141.
- New Orleans**, land office opened at, when, 8; seasons at very variable, 11; frequent severity of, *idem*; few winters occur without frost, *idem*; difference between the seasons at, and those at Natchez remarkable, *idem*; distance from the mouth of Mississippi, 16; inside passage from

to Mobile and Blakeley, 18; manner of passing to, over lake Pontchartrain, 36; time necessary to pass from to Arkansaw post, 40; distance from Nashville, 43; from Mexico by land, 44; communication between and Opelousas, 52.
New-York, state of, its western part, extent, position and population, 187, 267.
Nile's Register, quoted, 124, 185.

O.

Orachoola, river, 68.
Ohio, state of, the best account of, Drake's Cincinnati, 1.
— state of, natural position, 167
218—topographical table, idem—population, 219—natural geography, rivers, lakes, mountains, hills, minerals, idem—hills, 224—coal, idem—progressive geography, history, towns, 224—productions, seasons, climate, 229.
— river, 214—south and southeast limit of the state of the same name, 219—quality and productions of the land it waters, 220.
Oil of olives, 174.
— cotton seed, 180.
— Rhene, 185, note.
Olives, wine, and silk, 21.
— tree, when found in France, 26—more valuable than the vine, 30—will find a congenial situation in part of the Mobile basin, 33—culture in Opelousas, 79.
— history of, eulogy on by Columella, 165—supposed to have been brought originally from Egypt into Greece, and from there to Marseilles idem—culture of discouraged by Spain in her colonies, 165, note—botanical description, 166—climate and soil suitable to, idem—Necessary position, 168—epoch of its introduction into France, idem, note—distance from the sea, 167—locality in France, idem—season of flowering in France, 170—time between the flower and ripe fruit, idem, note—effects upon by frost, 171—succeeds better in sandy or stony than upon chalky or clayey soil, 172—description of from Miller's Garden-er's Dictionary, 172—form of, cultivating in England, 174—considered by the ancients a maritime tree, idem—manner of cultivating in Languedoc, idem—from what soil the best oil produced, idem—man-

ner of cultivating in England, 175—more hardy than the orange tree, 176.
Opelousas, land office opened at, when, 5—town of St. Landré, its latitude, 11—communication between and the Mississippi river, 54—landing-place, idem—boundaries, 55—character of its inhabitants, 61—natural limits, 69—character of the country between, and Bayou Rouge, 71—origin of the name, 71—formerly part of Attacapas, idem—civil limits, idem.
— church of, stands on table-land, 57.
Orange, 11—tree frequently destroyed by frost upon the shore of the Gulf of Mexico, idem—in Europe grows farther north than sugar cane, but the reverse in America, 12—its limit in Louisiana, idem—easily destroyed by frost, 176.
Orizaba, volcano of, 16.
Orleans, territory of, what were its extent and limits, 3—subdivisions when under the French and Spanish governments, 4.
Osage, river, 139.
Ouachitta, river, sources, course, 50—confluent streams, 98—described, 90—lands of, their production, 99—character, 101.
— parish of, 102.
Outlets of the Mississippi, 12.

P.

Prairies of Laurent, 51—described, 69.
— Louisiana and Texas, 49, 51—extent of exaggerated, idem.
— Mamou, 51—described, 62.
— Missouri, 144
— near the mouth of Sabine, 55, 60.
— Mer Rouge, 99.
— Opelousas described, 63—64.
— Osage river, 140.
— Petite Bois, 51.
— St. Louis, 144.
Pride of India (*Melia Azederach*), destroyed by frost at Opelousas, April, 1812 12.
Printing, state of, in the Western states, 217.
Providence lake, 13.
Pumice stone found upon the shore of the Gulf of Mexico, 16.
Paris, its winters, 28.
Pasagoula river, 10, 32—sources and confluent streams, 117.
Pastoral life, its vicissitudes, 76—re-

- verity of, *idem*.—profits of, in the state of Louisiana, *idem*.—character of the men who perform its duties, 77.
Peach, orange and fig, common fruits near the mouth of the Mississippi river, 11.
Pearl river, 19, 20; impeded by rafts, *idem*; country between and Sabine, 151.
Petition, *Requies*, what, 8.
Plaquemine, bend of, 17; its importance as a military position, *idem*; settlements below, upon the Mississippi banks impracticable, *idem*.
Plaquemine, Bayou, an outlet from the Mississippi, 52.
Plum, produced plentifully in Louisiana, 11.
Posonagrass, where first found planted in hedges, in France, 26.
Pontchartrain, lake of, 13; passages from into lake Borgne, 19, 32, 33.
Population, its advance in North America, 62.
Potatoes, their culture, 153.
Prairies, of Attacapas, 67.
 — Arkansas river, 138, 141.
 — Bellevue described, 66.
 — Calcasieu, 60; pursuits of the inhabitants of, 61.
 — Grand, 51; described, 63.
 — Grand Ochevreuil, 51; described, 69.
 — Kansas, and Plate river, 141.
Pests, under the French and Spanish governments, 4; sub-divisions of Louisiana still known by the name of pests, 4.
Peninsula between Red and Ouchitta, character of, 89, 90.
Pennsylvania, western part, position, 187; general description of, 251.
Pittsburg, city of, when formed, 157; described, *idem*; manufactures and merchandise, 253.
- R**
- Rafi** in Atchafalaya, 82.
Red river, cotton cultivated on its banks, 11; inundations of, 13—its length, 40; sources and course, 50; described, 86, 89; salt springs near, *idem*; waters brackish at Natchitoches, *idem*; note.
Rhone, basin of, divided into two minor basins by the embranchments of the Alps, 125; compared to the basin of Mobile, 26, 127, note.
 — river, its course, 25; character of its confluent streams, 26; contrasted with the Mobile, 33 and 157, note.
Rice, its relative value, 9; one of the staple commodities of the state of Louisiana, 10; extent of its possible culture near the Mississippi, *idem*; and 160; compared with other staples, *idem*.
Rigolet's, pass of, 19, and 122.
Rigolet de bon Dieu, 88.
River, Ais, 26.
 — Alabama, 32, 35.
 — Aleghany, 15, 253.
 — Amazon, 29.
 — Amite, 35, 118.
 — Apalachicola, 532.
 — Arkansaw, 14, 40, 60, 138.
 — Ashtabula, 223.
 — Au Glaize, 223.
 — Barthelemy, 91, 99.
 — Big Beaver, 223, 253.
 — Big Black, 115.
 — Big Horn, 14.
 — Black, 223.
 — Black lake, 64.
 — Bodcan, 84, 96.
 — Boeuf, 101.
 — Bogue Chito, 117.
 — Brasos, a Dios, 56, 64.
 — Buffalo, 115.
 — another, a branch of Tennessee, 194.
 — Burrampooter, 29.
 — Cahaba, 33, 133, 139.
 — Calcasieu, 50, 56, 84.
 — Camchee, 31.
 — Cayahoga, 219, 223.
 — Chagrine, 223.
 — Chatahooche, 92, 135, 136.
 — Cheat, 253, 266.
 — Chicago, 215.
 — Chickasawhay, 117.
 — Clinch, 193, 252, 253.
 — Colorado, of the Gulf of California, 29.
 — Colorado, of the Gulf of Mexico, 84.
 — Mexico, 84.
 — Conecub, 133.
 — Conemaugh, 255.
 — Cooper's, 31.
 — Coosa, 32.
 — Courtabieau, 52.
 — Cumberland, 190, 194, 252.
 — Tachest, 84, 98.
 — Danube, 29.
 — Delaware, 169.
 — Derbane, 84.
 — Dog, 117.
 — Deux, 26.
 — Drome, 26.
 — Duck, 194.
 — Dugdomini, 84.
 — Durance, 26.
 — Durgean, 26.

INDEX

ix

River, Edisto, 31.
Elbe, 29.
Elk, 193, 257.
Embarras, 212.
Escambia, 183.
Euphrates, 29.
French Broad, 193.
Flint, 135.
Fourche au Cado, 91.
Ganges, 29.
Gardou, 26.
Genesee, 29, 269.
Grand, 219, 223.
Green, 204.
Green Briar, 257.
Guadaloupe, 84.
Henderson, 210.
Hietan, 88.
Hockhocking, 219, 221, 223.
Holston, 193.
Homochitto, 118.
Hudson, 189.
Huron, 223.
Illinois, 14, 209, 211.
Isère, 26.
Jenisea, 29.
Juniata, 264.
Kansas, 14, 139.
Kaskaskia, 210.
Kenhawa, Great, 15, 253, 256.
Kenhawa, Little, 253, 256.
Kentucky, 194, 204.
Kiskiminitas, 264.
Lafourche, 11.
Leaf, 117.
Licking, 204.
Little Water, or Little Wabash, 211
Maçon, 50.
Marne, 29.
Maumée, 215, 219, 223.
Mermentau, 50, 56, 84.
Merrimack, 136.
Miami, Great, 201, 219, 220.
Miami, Little, 219, 221.
Mississippi, 11, 13, 14, 17, 18, 29, 85, 137, 203, 204.
Missouri, 14, 137.
Missouri, Little, a branch of Ouachitta, 91.
Mobile, 29, 32.
Muskingum, 15, 222.
Nile, 29.
Nolachucky, 193.
Nueces, 50, 84.
Oby, 29.
Oconee, 31.
Ohio, 14, 82, 137, 204, 211, 219, 253.
Oise, 29.
Oneida, 269.

Osage, 14, 138.
Oswego, 269.
Ouachitta, 11, 50, 85, 90.
Ougnon, 26.
Pascagoula, 32, 35, 117.
Pearle, 11, 35.
Plate, 14.
Plata, Rio de la, 29.
Po, 29.
Potomac, 252.
Red, 11, 13, 14, 49, 50, 85, 138.
Rhone, 25, 26.
Rio Grande del Norte, 50, 83, 84.
Rolling, 204.
Rocky, 223.
Sabine, 11, 84.
Saline of Red River, 84, 88.
Saline of Ouachitta, 84, 91.
Sandusky, 219, 223.
Sandy, Great, 201, 204, 252, 254.
Soane, 26.
Savanna, 31.
Sciota, 219, 221.
Seille, 26.
Spoon, 210.
St. Antonio, 50.
St. Francis, 137, 142.
St. Lawrence, 29.
St. Joseph, 215.
Susquehanna, 189.
Tagus, 29.
Tallapoosa, 33, 132, 138.
Teche, 11, 50, 62.
Tennessee, 15, 32, 253.
Tensaw, 101.
Trinity, 50, 84.
Tuscarawas, 222, 223.
Tiger Valley, 253.
Vassaux, 211.
Vermilion, 11.
Wabash, 14, 211, 212.
Wacahatcha, 56.
Weser, 29.
White, 14, 137, 142.
White Woman's, 222.
Yazoo, 32, 114.
Youghiogheny, 191, 252, 253.

ROAD AND RIVER ROUTES.

	Nb.	p.
<i>New Orleans, to the bar at the mouth of the Mississippi</i>	1	16
<i>New Orleans, to Mobile and Blakeley</i>	2	18
<i>St. Stephens, to New-Orleans by Madisonville</i>	3	37
<i>Natchez</i>	4	37
<i>Milledgeville in Georgia,</i>	5	
<i>Nashville in Tennessee by Huntsville</i>	6	37

	No.	p.		
<i>New Orleans to Natchez, and post of Arkansas, by the Mississippi river</i>	7	39	distances of the Cumberland river from its source to its entrance into the Ohio	37 194
— Natchez, by Lake Pontchartrain, Madisonville	8	40	From Nashville to Washington, by Knoxville	38 199
— Mexico, by land	9	44	Nashville to Pittsburg, by Lexington in Kentucky	39 199
— Hot Springs on Ouachitta, by Opelousas and Natchitoches	10	45	Nashville to Charleston in S. Carolina, by Athens, Augusta, and Savannah in Georgia	40 199
— Natchez and Fort Miro	11	45	Nashville to Columbus in the state of Ohio, by Lexington and Cincinnati	41 200
— by water	12	46	Nashville to Charleston, by Knoxville and Columbia	42 200
— Natchitoches by water	13	47	Nashville to Washington, by Raleigh in North Carolina, and Richmond, Virginia	43 200
— Opelousas by water	14	47	New-York to Lexington in Kentucky, by Philadelphia and Pittsburg	45 270
— New Iberia and St. Martinsville by water	15	48	From the S. W. to the N. E. corner of the state of Ohio	46 273
— St. Martinsville, by the Atchafalaya and Tache	16	48	Cincinnati to Urbana	47 273
— Natchez and Lake Providence	17	48	Chillicothe to Cincinnati	48 273
— Fort Miro, by Opelousas, Alexandria, and Ocatahoola	17	48	— to Marietta	49 273
Natchez to Natchitoches, by the town of Alexandria	19	49	Marietta to Zanesville	50 274
— New Orleans, by Madisonville	20	150	Cleveland to Zanesville	51 274
— Baton Rouge and the Levée	21	150	Pittsburg to Painesville on Lake Erie	52 274
— by water	22	151	Pittsburg to Chillicothe by Steubenville	53 274
— Opelousas and Attapas, by Alexandria	23	152	— to Vincennes	54 275
— Prairie of Avoyelles	24	152	— to Urbana	55 275
— Milledgeville,	25	153	— to Detroit	56 276
— Nashville	26	153	— to Philadelphia	57 276
— St. Louis, by water	27	154	— Buffalo, by Erie	58 276
— Pittsburg by water	28	115	— Warren	59 277
St. Louis, to New-Orleans, by water,	29	156	— Harrisburgh, (the northern route)	60 277
— Washington City, by Lexington in Kentucky,	30	157	— Union, by Clarksburch	61 277
— Shawaneetown and Knoxville	31	158	— Washington City, by Winchester	62 277
— Pittsburg, by Vincennes and Cincinnati	32	159	Albany by Buffalo and Cherry Valley	63 278
— New Orleans, by Russellville, Nashville, and Natchez	33	160	— by Utica	64 279
— by the Hot Springs on Ouachitta, Natchitoches, on Red River, and Opelousas	34	161	Newburgh to Geneva	64 279
— to the Pacific Ocean, by the Missouri and Columbia rivers	35	162	New-York to New-Orleans, by Philadelphia, Baltimore, Washington, Knoxville, and Natchez	66 280
— Length and stationary distances of the Tennessee river, by the Holston branch	36	191	Washington City to Marietta, by Winchester and Clarksburch	66 281
— Length and stationary			New-York to New-Orleans, by the Great bend in the Susquehanna river, and Hamilton on the Alleghany river, and thence by water	67 282
			Syllabus of the Grand Canal, from Albany to Lake Erie	68 289

- Sabine river*, 11—sea-shore between, and Pearl, 51—mouth of, 53—part of the western limit of the state of Louisiana, *idem*—described, 85.
§ of public land, none yet made in Louisiana, 8.
Salt Springs on Ouachitta.
 —, their nature explained, 88, note.
 — on Petite Anse, in Attacapas, 68.
 — on Conemangh, and Great Kenhawa rivers, 265-266.
 — in Wyth county, in Virginia, *idem*.
 — in Onondaga county, in the state of New-York, 270.
Sandy soil, necessary to the production of good wine, 24—produces that of Aubrion, 130—in Georgia, 31—necessary to the production of the best olive oil, 172.
Saone river, its character, 26.
Savages of America, contrasted with the frontier men of the United States, the creole of Louisiana, and the Spanish horsemen, 61.
Saw mills, 101.
Schultz's travels, 292.
Seine basin, its outline, 27.
 — river, constituent streams, 29.
Sesamum, that species of, called oriental Bhené, introduced into the United States, 185.
Sheep in Louisiana, 78.
Shelter from north winds, its primary importance in the culture of the olive tree, 172—observations upon, 174, note.
Sicily, island of, 13.
Sickness, cause of upon, and near the Mississippi river, 40.
Silk, its production in the United States, 169.
 —, wine, and olives, 21.
Snow, frequent at Natchez, 11—its occurrence at Opelousas, 11-12—limit of, in Louisiana, 12—its occurrence ominous to sugar-cane, *idem*—its occurrence and effects, 78.
Soldiers' bounty land, in the Illinois territory, its position, 209—climate of, *idem*.
South Carolina, part of it in the Ohio valley, 187.
Southern parts of the United States, resemblance to the south of France, 22—compared, *idem*.
Spanish government, its policy, 141, 145.
St. Andrew's settlement, 144.
 — Charles district, 142—situation, 145.
 — Ferdinand village, 144.
 — Francis' river, 139.
 — Genevieve district, 142—described, *idem*.
 — Joseph, bay of, 16.
 —, lake of, 13.
 — Louis' district, 142—lands of, 144—productions and population, *idem*.
 —, town of, 143—compared with Cincinnati, *idem*—road from to Natchitoches, 149—situation of, 164—distance from the mouth of Columbia river, *idem*.
 — Martinsville in Attacapas, 73—contrasted with New Iberia, 74.
Stage Coaches, not yet established in Louisiana, 42.
Staples, sugar, cotton, indigo, rice, and tobacco compared, 9; of the state of Mississippi, 120; indigo, sugar, rice, and tobacco again compared, 182.
Steam Boats, their celerity, 40; compared with barges, *idem*; importance to Kentucky, 205.
Stoddard's view of Louisiana, 1; conjectures respecting the climate of, 147; his documents compared, 292.
Storms, their violence along the north shore of the gulf of Mexico, 11; their effects on the sugar-cane, 75.
Sugar, relative value, 9.
 — cane, cannot be raised so extensively in Louisiana as cotton, 8; its limits, 10; frequently destroyed by frost on the gulf of Mexico, 11; highest point, north, to which the successful culture of has been extended, 12; is found in North America farther north than the orange tree, but the reverse in Europe, *idem*; if successfully cultivated in Georgia, deduction therefrom, 31; its limit, importance, 74; how propagated in Louisiana, 176; its congenial climate compared with that of the olive, *idem*; its superiority as a staple, 182.
Susquehanna, river of, 189.]

T.

- Table of the relative value of sugar, rice, cotton, indigo and tobacco*, 9.
Tallapoosa river, 132.
Teche river, sugar-cane cultivated upon its banks, 10; cotton, *idem*; its junction with Atchafalaya, 53; sources of, 58; features, *idem*; excellence of its lands, 59; lands at the mouth of, 72; contrasted with the Vermilion, 73; its banks thickly inhabited, 74.
Tennessee, state of, position, extent, and population, 187; topographical table of, 192; length, breadth, and extent, 193; natural features, *ib.*; middle climate of the United States,

195; soil, surface, hills, idem; compared with the state of Mississippi, 196; progressive geography, history, idem; productions, 197; towns, colleges, schools, idem.
Tennessee river, 193.
Tenure of Land. Spanish and French, 1; its principles explained, 5; in the state of Ohio, 225.
Terre aux Boeufs, settlement of, 17.
Texas, province of, current upon its coast, 16; prairies of, 49; part of Louisiana, 50; discovery of, 81; character of as a country, idem; its importance to the United States, 82; limits, extent, and climate, 83; inhabitants, 84.
Tide, flows up the Atchafalaya, and into Bayou Plaquemine, 54; flows in the Teche above New Iberia, 58.
Tiles (land), in Louisiana, their variety, 5; manner of surveying, idem; large, doubtful, 146.
Tobacco, its relative value, 9; may be cultivated in Louisiana as extensively as cotton or indigo, 10; was formerly a staple commodity of Louisiana, 10; compared with other staples, 180.
Tombigbee river, 35; junction with the Alabama, 37.
Towns, Ashtabula, 229.
 — Athens, 229.
 — Blackford, 216.
 — Bridgeport, 262.
 — Brookville, 216.
 — Brownsville, 261.
 — Cadiz, 229.
 — Cahokia, 213.
 — Canton, 229.
 — Chillicothe, 227.
 — Cincinnati, 225, 226.
 — Columbia, 226.
 — Coshocton, 222, 229.
 — Corydon, 216.
 — Dayton, 226.
 — Erie, 264.
 — Frankfort, 206.
 — Franklin, 254, 264.
 — Greensburg, 263.
 — Greenville, 229.
 — Hamilton, 226, 254, 164.
 — Harmony, 216.
 — Kaskaskia, 213.
 — Kingston, 193.
 — Kittanning, 254, 264.
 — Knoxville, 198.
 — Lawrenceburg, 216.
 — Lisbon, 229.
 — Louisville, 207, 226.
 — Madison, 216.

— Madisonville, 38, 40.
 — Marietta, 222, 228.
 — Meadville, 264.
 — Mobile, 21, 35, 196.
 — Morgantown, 263.
 — Mount Vernon, 229.
 — Nashville, 198.
 — Natchez, 126.
 — New Iberia, 58.
 — New Lancaster, 229.
 — New Orleans, 16, 19.
 — New Philadelphia, 229.
 — Pittsburg, 25 and sequel.
 — Shippingport, 207.
 — Steubenville, 228.
 — St. Martinsville, 58.
 — Troy, 229.
 — Union, 263.
 — Urbana, 229.
 — Vincennes, 216.
 — Waterford, 254.
 — Warren, 229.
 — Washington, 263.
 — Williamsburg, 227, 229.
 — Zanesville, 222, 227.
 — Zenia, 229.

U.

University of Transylvania, 206.
Ulrica, in the state of New-York, its situation, 252.

V.

Valley of the Mobile, its extent, 136—of the Ohio and Illinois rivers, extent of, 187—local position, idem—political divisions, idem—geological structure, idem.
Vegetable and meteorological analogy, its use in judging of climate, 12.
Vegetables, the true thermometer of climate, 21—analogy of, 75, 231.
 — their principles of life and perpetuity, 177.
Vermilion river, character of its lands, 66—contrasted with the Teche, 73.
Vine, whether it can be successfully cultivated in Louisiana, and Alabama territory, or not, 21—grant made for the purpose of introducing, idem—succeeds best in Champaigne upon the most sterile land, 22—distest from the sea, 23—not always influenced by mere difference of latitude, idem—its growth in Burgundy, Dauphiny, Anjou, Touraine, Orleans, Berri, and Lower Auvergne, idem—Basin of the Rhone, 26—but seldom found with the ap-

pie, 28—where it can be cultivated in the United States to most advantage, 35—whether it can be cultivated in Opelousas or not, 79—congenial climate, similar to that of cotton, 176.

Virginia, western part, position, extent, and population, 187—general description of, 251.

Virarias, 24.

Volcano of Orizaba, 16.

Volney, his work on the United States, 191, 234, and sequel—recommended to emigrants, 291.

W.

Wabash, its resemblance to the Ohio, 212.

War between the savages and the United States, 224—terminated by the treaty of Greenville, idem.

Washington, general, letter from, 260.
— in the state of Mississippi, 126.

Water, its effects on climate, 31.

West Florida, in great part vacant land, 7.

Western States, their produce, cotton, flour and sugar, 2—infated pictures

of, 2—position, 3—extent, and population, ib.

Wheat and Rye, why not cultivated in the state of Louisiana, 11.

White river, 133.

Winds, their effect on climate, 170.

Wine, olives, and silk, 21—good wine only, produced from grapes growing in sandy soil, 24—found in the higher part of the basin of the Rhone, why, 26—and of St. Troy, Millery, Charly, Cote Rotie, Hermitage, Thain, St. Perit, Gormas, and Chateau Neuf-du-pape, their character, 27.

— principal culture in the higher parts of the basin of the Seine, 29.

— of Poilly, Charité-sur-Loire, Blois, Tours, and Angers, 30.

— of Aubrion, its character, and why, idem.

Winters in Louisiana often severe, 15—of 1766 in Europe, 26—safest and most agreeable time to travel, 38, 42.

— of the northern and southern states compared, 121.

— at St. Louis, 148—at Natchez, idem—Tennessee, 195—more intense west, than east of the Alleghany mountains, 244, and sequel.